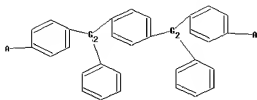


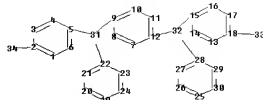
STN-10/582, 459

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Uploading C:\Program Files\STNEXP\Queries\10582459#1.str



G₁-H₁-G₂



42-39-H₁

```
chain nodes :
31 32 33 34 39 40 42
ring nodes :
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
24 25 26 27 28 29 30
chain bonds :
2-34 5-31 9-31 12-32 15-32 18-33 22-31 28-32 39-40 39-42
ring bonds :
1-2 1-6 2-3 3-4 4-5 5-6 7-8 7-12 8-9 9-10 10-11 11-12 13-14 13-18 14-15
15-16 16-17 17-18 19-20 19-24 20-21 21-22 22-23 23-24 25-26 25-30 26-27
27-28 28-29
29-30
exact/norm bonds :
2-34 5-31 9-31 12-32 15-32 18-33 22-31 28-32 39-40 39-42
normalized bonds :
1-2 1-6 2-3 3-4 4-5 5-6 7-8 7-12 8-9 9-10 10-11 11-12 13-14 13-18 14-15
15-16 16-17 17-18 19-20 19-24 20-21 21-22 22-23 23-24 25-26 25-30 26-27
27-28 28-29
29-30
isolated ring systems :
containing 1 : 7 : 13 : 19 : 25 :
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G1: Ak, H

G2: N, P

G3: B, X

Match level :

```
1: Atom 2: Atom 3: Atom 4: Atom 5: Atom 6: Atom 7: Atom 8: Atom 9: Atom 10: Atom
11: Atom 12: Atom 13: Atom 14: Atom 15: Atom 16: Atom 17: Atom 18: Atom 19: Atom
20: Atom 21: Atom
22: Atom 23: Atom 24: Atom 25: Atom 26: Atom 27: Atom 28: Atom 29: Atom 30: Atom
31: CLASS 32: CLASS
33: CLASS 34: CLASS 39: Atom 40: CLASS 42: CLASS
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Generic attributes :

39:

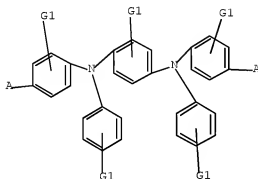
Saturation : Unsaturated

L1 STRUCTURE UPLOADED

=> d l1

L1 HAS NO ANSWERS

L1 STR



G1 Ak,H

Structure attributes must be viewed using STN Express query preparation.

=> s l1

SAMPLE SEARCH INITIATED 14:28:49 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED - 497 TO ITERATE

100.0% PROCESSED 497 ITERATIONS

50 ANSWERS

INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)

SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**

BATCH **COMPLETE**

PROJECTED ITERATIONS: 8603 TO 11277

PROJECTED ANSWERS: 1114 TO 2206

L2 50 SEA SSS SAM L1

=> s l1 full

FULL SEARCH INITIATED 14:28:57 FILE 'REGISTRY'

FULL SCREEN SEARCH COMPLETED - 9757 TO ITERATE

100.0% PROCESSED 9757 ITERATIONS

1783 ANSWERS

SEARCH TIME: 00.00.01

L3 1783 SEA SSS FUL L1

.

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s 13
L4 1050 L3
=> s 13 and electrolumin?
1050 L3
100932 ELECTROLUMIN?
L5 440 L3 AND ELECTROLUMIN?
=> s 15 and suz?
11754 SUZ?
L6 6 L5 AND SUZ?
=> d ibib abs hitstr 1-6

L6 ANSWER 1 OF 6 CAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2007:1300534 CAPLUS Full-text
DOCUMENT NUMBER: 147:542520
TITLE: Polymers containing 9,9-dimethylfluorene for use in
optoelectronic devices
INVENTOR(S): Conway, Natasha; Grizzi, Ilaria; Towns, Carl
PATENT ASSIGNEE(S): CDT Oxford Limited, UK
SOURCE: PCT Int. Appl., 36 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2007129015	A1	20071115	WO 2007-GB1420	20070419
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW			
RW:	AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
GB 2440934	A	20080220	GB 2006-8499	20060428
GB 2440934	B	20091216		
EP 2016112	A1	20090121	EP 2007-732462	20070419
R:	AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR, AL, BA, HR, MK, RS			
JP 2009535795	T	20091001	JP 2009-507140	20070419
CN 101448869	A	20090603	CN 2007-80018370	20081119
KR 2009005224	A	20090112	KR 2008-728993	20081127
US 20090322213	A1	20091231	US 2009-298239	20090224
PRIORITY APPLN. INFO.:			GB 2006-8499	A 20060428
			WO 2007-GB1420	W 20070419

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB A polymer for use in an optoelectronic device comprises aromatically conjugated repeating units of optionally substituted 9,9-dimethylfluorene. The polymer has improved thermal stability and longer life time compared to prior

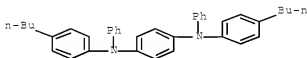
art polymers containing 9,9-dioctylfluorene, 9,9-diphenylfluorene and N,N'-bis(4-butylphenyl)-N,N'-diphenyl-1,4-benzenediamine units, and can be used in blue-emitting electroluminescent devices.

IT 423774-96-3D, Suzuki-coupled diphenylfluorene- and dioctylfluorene- and dimethylfluorene-containing polymers
 RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(polymers containing 9,9-dimethylfluorene for use in optoelectronic devices)

RN 423774-96-3 CAPLUS

CN 1,4-Benzenediamine, N1,N4-bis(4-butylphenyl)-N1,N4-diphenyl- (CA INDEX NAME)



OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 2 OF 6 CAPLUS COPYRIGHT 2010 ACS ON STN

ACCESSION NUMBER: 2006:656052 CAPLUS Full-text

DOCUMENT NUMBER: 145:125250

TITLE: Blue-shifted triarylamine polymer for electroluminescent devices

INVENTOR(S): McKiernan, Mary; Patel, Nalinkumar; Foden, Clare; Leadbeater, Mark; Tierney, Brian; Conway, Natasha

PATENT ASSIGNEE(S): Cambridge Display Technology Limited, UK; CDT Oxford Limited

SOURCE: PCT Int. Appl., 61 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006070184	A1	20060706	WO 2005-GB5056	20051223
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM US 20090146164 A1 20090611 US 2008-813180 20081009 PRIORITY APPLN. INFO.: GB 2004-28445 A 20041229				

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB A semiconductive conjugated polymer comprises the repeating unit
 $\text{Ar1N}(\text{Ar2})\text{Ar3N}(\text{Ar4})\text{Ar5}$: where Ar1, Ar3, and Ar5 are the same or different and
 each represent an optionally substituted aryl or heteroaryl group; Ar2 and Ar4
 are the same or different and each represent a substituted aryl or heteroaryl
 group; and characterized in that Ar2 and Ar4 sterically interact with one
 another so as to cause an increase in the bandgap of the polymer. The
 triarylamine polymers are useful in LEDs.

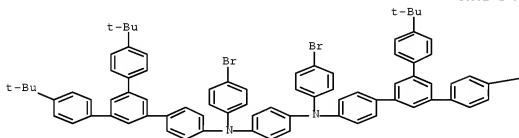
IT 1057075-34-9

RL: PRPH (Prophetic)
 (Blue-shifted triarylamine polymer for electroluminescent
 devices)

RN 1057075-34-9 CAPLUS

CN INDEX NAME NOT YET ASSIGNED

PAGE 1-A



PAGE 1-B

—Bu-t

IT 897365-67-2P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material
 use); PREP (Preparation); USES (Uses)
 (blue-shifted triarylamine polymer for electroluminescent
 devices)

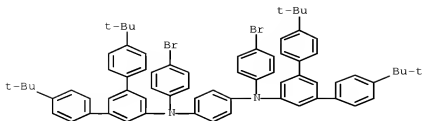
RN 897365-67-2 CAPLUS

CN 1,4-Benzenediamine, N,N'-bis[4,4''-bis(1,1-dimethylethyl)[1,1':3',1''-
 terphenyl]-5'-diyl]-N,N'-bis(4-bromophenyl)-, polymer with
 2,7-dibromo-9,9-dioctyl-9H-fluorene and
 2,7-dibromo-9,9-diphenyl-9H-fluorene (9CI) (CA INDEX NAME)

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CRN 897365-66-1

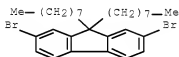
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CM 2

CRN 198964-46-4

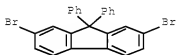
CMF C29 H40 Br2



CM 3

CRN 186259-63-2

CMF C25 H16 Br2

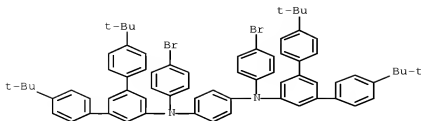


IT 897365-66-1P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(monomer; blue-shifted triarylamine polymer for electroluminescent devices)

RN 897365-66-1 CAPLUS

CN 1,4-Benzenediamine, N,N'-bis[4,4''-bis(1,1-dimethylethyl)[1,1':3',1''-terphenyl]-5''-yl]-N,N'-bis(4-bromophenyl)- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

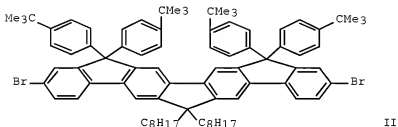
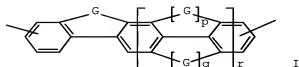
L6 ANSWER 3 OF 6 CAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 2006:151223 CAPLUS [Full-text](#)
 DOCUMENT NUMBER: 144:233620
 TITLE: Polymers for use in organic electroluminescent devices
 INVENTOR(S): McKiernan, Mary; Towns, Carl
 PATENT ASSIGNEE(S): Covion Organic Semiconductors GmbH, Germany
 SOURCE: PCT Int. Appl., 33 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006015862	A1	20060216	WO 2005-EP8718	20050811
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM EP 1627891 A1 20060222 EP 2004-19030 20040811 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR EP 1776404 A1 20070425 EP 2005-787939 20050811 EP 1776404 B1 20080102 R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR CN 101001901 A 20070718 CN 2005-80026915 20050811 AT 382647 T 20080115 AT 2005-787939 20050811 JP 2008509266 T 20080327 JP 2007-525255 20050811 KR 2007051265 A 20070517 KR 2007-703096 20070208 US 20070252139 A1 20071101 US 2007-659899 20070209 US 7592622 B2 20090922 US 20090253883 A1 20091008 US 2009-481220 20090609 PRIORITY APPLN. INFO.: EP 2004-19030 A 20040811				

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

OTHER SOURCE(S): MARPAT 144:233620

GI



AB A polymer comprises an optionally substituted first repeat unit, I, where G = divalent residue; $r \geq 1$; $p, q = 0$ or 1 ; and G comprises a heteroatom in the case where n (sic) = 1 . Monomer II (preparation given) could be polymerized forming blue light-emitting copolymer.

IT 876107-80-1P 876107-81-2P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polymers based on diindenofluorene monomers for electroluminescent devices)

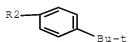
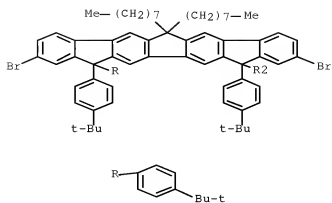
RN 876107-80-1 CAPLUS

CN 1,4-Benzenediamine, N,N'-bis(4-bromophenyl)-N,N'-bis(4-butyphenyl)-, polymer with 2,10-dibromo-12,12,15,15-tetrakis[4-(1,1-dimethylethyl)phenyl]-12,15-dihydro-6,6-dioctyl-6H-diindeno[1,2-b:2',1'-h]fluorene and 2,2'-[2',3',6',7'-tetrakis(3-methylbutoxy)-9,9'-spirobi[9H-fluorene]-2,7-diyl]bis[1,3,2-dioxaborolane] (9CI) (CA INDEX NAME)

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CRN 876107-73-2

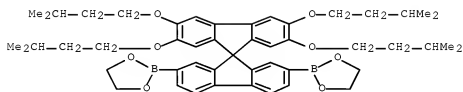
CMF C83 H96 Br2



CM 2

CRN 807374-60-3

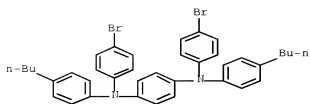
CMF C49 H62 B2 O8



CM 3

CRN 372200-89-0

CMF C38 H38 Br2 N2



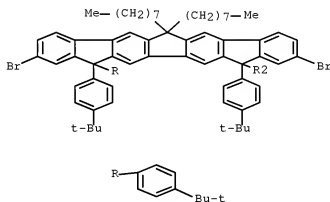
RN 876107-81-2 CAPLUS
 CN 1,4-Benzenediamine, N,N'-bis(4-bromophenyl)-N,N'-bis(4-butylphenyl)-,
 polymer with 2,10-dibromo-12,12,15,15-tetrakis[4-(1,1-
 dimethylethyl)phenyl]-12,15-dihydro-6,6-dioctyl-6H-diindeno[1,2-b:2',1'-
 h]fluorene and 2,2'-(6,12-dihydro-6,6,12,12-tetraoctylindeno[1,2-
 b]fluorene-2,8-diyl)bis[4,4,5,5-tetramethyl-1,3,2-dioxaborolane] (9CI)
 (CA INDEX NAME)

CM 1

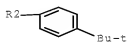
CRN 876107-73-2

CMF C83 H96 Br2

PAGE 1-A



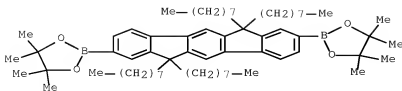
PAGE 2-A



CM 2

CRN 628303-20-8

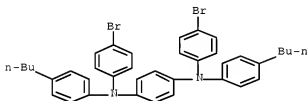
CMF C64 H100 B2 O4



CM 3

CRN 372200-89-0

CMF C38 H38 Br2 N2



OS.CITING REF COUNT: 5 THERE ARE 5 CAPLUS RECORDS THAT CITE THIS RECORD
(16 CITINGS)
REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 4 OF 6 CAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2005:1050577 CAPLUS Full-text
DOCUMENT NUMBER: 143:348231

TITLE: White electroluminescent polymeric material
& preparation thereof

INVENTOR(S): Wang, Lixiang; Tu, Guoli; Cao, Jianxin; Liu, Jun; Ma,
Dongge; Jing, Xia Bin; Wang, Fosong

PATENT ASSIGNEE(S): Changchun Institute of Applied Chemistry Chinese
Academy of Science, Peop. Rep. China

SOURCE: U.S. Pat. Appl. Publ., 55 pp.
CODEN: USXXCO

DOCUMENT TYPE: Patent
LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20050214568	A1	20050929	US 2005-42193	20050126
US 7579091	B2	20090825		
CN 1580179	A	20050216	CN 2004-10010770	20040329
CN 100363458	C	20080123		
CN 101113326	A	20080130	CN 2007-10128962	20040329

CN 101113327	A	20080130	CN 2007-10128969	20040329
CN 100543059	C	20090923		
US 20070270570	A1	20071122	US 2007-779101	20070717
PRIORITY APPLN. INFO.:			CN 2004-10010770	A 20040329
			US 2005-42193	A3 20050126

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

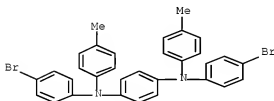
AB A white electroluminescent polymeric material is also described comprising a single white electroluminescent polymeric material consisting of type(I) main chain type single white electroluminescent polymeric material by the general formula I, type(II) pendant chain type single white electroluminescent polymeric material by the general formula II, and type(III) terminal group type single white electroluminescent polymeric material by the general formula III (R1 = alkyl, aryl; Ar1 = naphthalimide derivative with basic unit described in the text; R2 = alkyl, alkoxy, Ph and Ph substituted by alkyl or alkoxy; Ar2 = heterocyclic unit described in the text). A process for preparing the white electroluminescent polymeric material is also described entailing (1) providing a monomer selected from a group consisting of monomers with a general formulas IV, V (m = 0-20), VI, and VII; (2) providing a monomer by the general formula VIII and (3) polymerizing the monomers using the Yamamoto polymerization method or the Suzuki polymerization method.

IT 865779-67-5P 865779-70-0P
RL: IMF (Industrial manufacture); PREP (Preparation)
(white electroluminescent polymeric material and preparation)

RN 865779-67-5 CAPLUS
CN 1H-Benz[de]isoquinoline-1,3(2H)-dione,
6-[bis[4-[(4-bromophenyl)(4-methylphenyl)amino]phenyl]amino]-2-[4-(1,1-dimethylethyl)phenyl]-, polymer with
N,N'-bis(4-bromophenyl)-N,N'-bis(4-methylphenyl)-1,4-benzenediamine and
2,7-dibromo-9,9-dioctyl-9H-fluorene (9CI) (CA INDEX NAME)

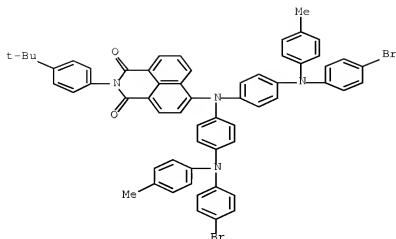
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CRN 865779-66-4
CMF C32 H26 Br2 N2



CM 2

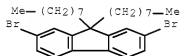
CRN 865779-32-4
CMF C60 H48 Br2 N4 O2



CM 3

CRN 198964-46-4

CMF C29 H40 Br2



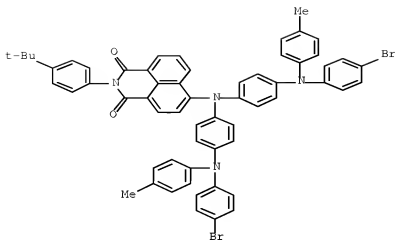
RN 865779-70-0 CAPLUS

CN 1H-Benz[de]isoquinoline-1,3(2H)-dione,
6-[bis[4-[(4-bromophenyl)(4-methylphenyl)amino]phenyl]amino]-2-[4-(1,1-dimethylethyl)phenyl]-, polymer with 2,7-dibromo-9,9-dioctyl-9H-fluorene
and 2,2'-(9,9-dioctyl-9H-fluorene-2,7-diyl)bis[1,3,2-dioxaborinane] (9CI)
(CA INDEX NAME)

CM 1

CRN 865779-32-4

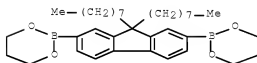
CMF C60 H48 Br2 N4 O2



CM 2

CRN 317802-08-7

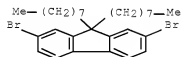
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CM 3

CRN 198964-46-4

CMF C29 H40 Br2



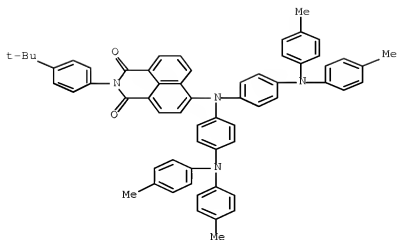
IT 865779-30-2P 865779-32-4P 865779-58-4P

865779-59-5P

RL: IMF (Industrial manufacture); PRP (Properties); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(white electroluminescent polymeric material and preparation)

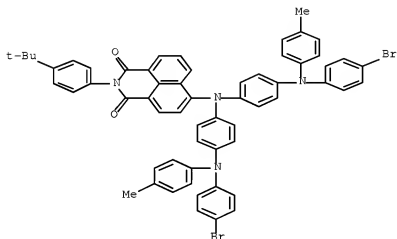
RN 865779-30-2 CAPLUS

CN 1H-Benz[de]isoquinoline-1,3(2H)-dione,
6-[bis[4-[bis(4-methylphenyl)amino]phenyl]amino]-2-[4-(1,1-dimethylethyl)phenyl]- (CA INDEX NAME)



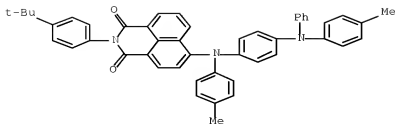
RN 865779-32-4 CAPLUS

CN 1H-Benz[de]isoquinoline-1,3(2H)-dione,
6-[bis[4-[(4-bromophenyl)(4-methylphenyl)amino]phenyl]amino]-2-[4-(1,1-dimethylethyl)phenyl]- (CA INDEX NAME)

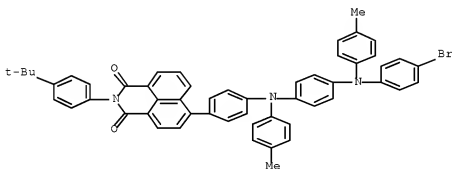


RN 865779-58-4 CAPLUS

CN 1H-Benz[de]isoquinoline-1,3(2H)-dione,
2-[4-(1,1-dimethylethyl)phenyl]-6-[(4-methylphenyl)[4-[(4-methylphenyl)phenylamino]phenyl]amino]- (CA INDEX NAME)



RN 865779-59-5 CAPLUS
 CN 1H-Benz[de]isoquinoline-1,3(2H)-dione,
 6-[4-[[4-[(4-bromophenyl)amino]phenyl](4-
 methylphenyl)amino]phenyl]-2-[4-(1,1-dimethylethyl)phenyl]- (CA INDEX
 NAME)



L6 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 2004:1059414 CAPLUS Full-text
 DOCUMENT NUMBER: 142:39562
 TITLE: Manufacture of solution-processable semiconductive
 polymers with improved hole transporting properties
 and their use
 INVENTOR(S): Wallace, Paul
 PATENT ASSIGNEE(S): Covion Organic Semiconductors G.m.b.H., Germany
 SOURCE: PCT Int. Appl., 25 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004106409	A1	20041209	WO 2004-EP5818	20040528
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,				
CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,				
GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,				
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,				
NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,				
TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				

RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
 AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
 EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE,
 SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,
 SN, TD, TG

EP 1633801	A1	20060315	EP 2004-739446	20040528
EP 1633801	B1	20080409		
R: DE, FR, GB, NL				
CN 1768093	A	20060503	CN 2004-80008649	20040528
JP 2007504342	T	20070301	JP 2006-529951	20040528
US 20060241202	A1	20061026	US 2006-558578	20060201
PRIORITY APPLN. INFO.:			EP 2003-12409	A 20030530
			WO 2004-EP5818	W 20040528

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB The semiconductive polymers are useful for thin film electronic and optical devices, such as organic light emitting diodes (OLED) and photovoltaic devices, e.g. solar cells and photo detectors. The semiconductive polymers can be obtained by the Yamamoto or Suzuki polymerization method where increase of the number of nitrogen atoms in the backbone of repeat unit of a semiconducting polymer improves its hole transporting capability. Appropriate selection of the polymerizable group of a monomer of a repeat unit enables the monomer to be polymerized by the Yamamoto or Suzuki polymerization which afford greater control over regioregularity of polymers as compared to prior art polymers.

IT 807374-47-6P 807374-61-4P 807374-75-0P
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (manufacture of solution-processable semiconductive polymers with improved hole transporting properties and their use)

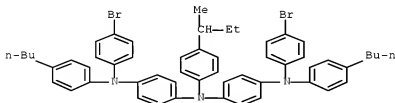
RN 807374-47-6 CAPLUS

CN 1,4-Benzenediamine, N-(4-bromophenyl)-N'-[4-[(4-bromophenyl)(4-butylphenyl)amino]phenyl]-N-(4-butylphenyl)-N'-[4-[(1-methylpropyl)phenyl]-, polymer with 2,2'-(6,12-dihydro-6,6,12,12-tetraoctylindeno[1,2-b]fluorene-2,8-diyl)bis[4,4,5,5-tetramethyl-1,3,2-dioxaborolane] (9CI)
 (CA INDEX NAME)

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CRN 807374-46-5

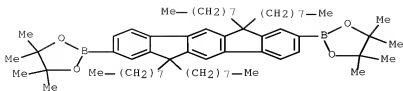
CMF C54 H55 Br2 N3



CM 2

CRN 628303-20-8

CMF C64 H100 B2 O4



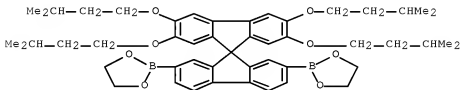
RN 807374-61-4 CAPLUS

CN 1,4-Benzenediamine, N-(4-bromophenyl)-N-(4-butylphenyl)-N'-[4-[(4-bromophenyl)(4-butylphenyl)amino]phenyl]-N'-[4-(1-methylpropyl)phenyl]-, polymer with 2,2'-[2',3',6',7'-tetrakis(3-methylbutoxy)-9,9'-spirobi[9H-fluorene]-2,7-diyl]bis[1,3,2-dioxaborolane] (9CI) (CA INDEX NAME)

CM 1

CRN 807374-60-3

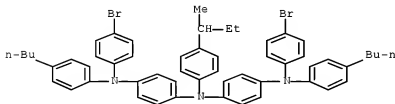
CMF C49 H62 B2 O8



CM 2

CRN 807374-46-5

CMF C54 H55 Br2 N3



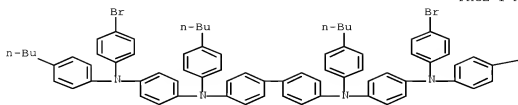
RN 807374-75-0 CAPLUS

CN [1,1'-Biphenyl]-4,4'-diamine, N,N'-bis[4-[(4-bromophenyl)(4-butylphenyl)amino]phenyl]-N,N'-bis(4-butylphenyl)-, polymer with 2,2'-[2',3',6',7'-tetrakis(3-methylbutoxy)-9,9'-spirobi[9H-fluorene]-2,7-diyl]bis[1,3,2-dioxaborolane] (9CI) (CA INDEX NAME)

CM 1

CRN 807374-74-9
 CMF C76 H76 Br2 N4

PAGE 1-A

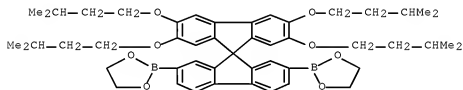


PAGE 1-B

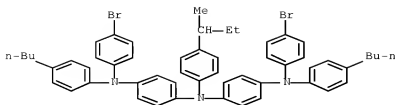
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CM 2

CRN 807374-60-3
 CMF C49 H62 B2 O8



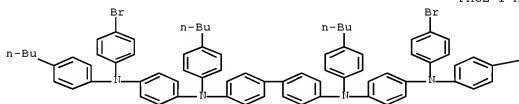
IT 807374-46-5P 807374-74-9P 807374-98-7P
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT
 (Reactant or reagent)
 (monomer; manufacture of solution-processable semiconductive polymers with
 improved hole transporting properties and their use)
 RN 807374-46-5 CAPLUS
 CN 1,4-Benzenediamine, N1-(4-bromophenyl)-N4-[4-[(4-bromophenyl)(4-
 butylphenyl)aminophenyl]-N1-(4-butylphenyl)-N4-[4-(1-methylpropyl)phenyl]-
 (CA INDEX NAME)



RN 807374-74-9 CAPLUS

CN [1,1'-Biphenyl]-4,4'-diamine, N4,N4'-bis[4-((4-bromophenyl)(4-butylphenyl)amino)phenyl]-N4,N4'-bis(4-butylphenyl)- (CA INDEX NAME)

PAGE 1-A

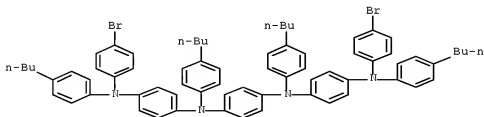


PAGE 1-B



RN 807374-98-7 CAPLUS

CN 1,4-Benzenediamine, N1,N4-bis[4-((4-bromophenyl)(4-butylphenyl)amino)phenyl]-N1,N4-bis(4-butylphenyl)- (CA INDEX NAME)



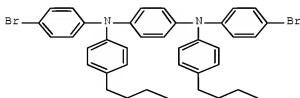
OS.CITING REF COUNT: 6 THERE ARE 6 CAPLUS RECORDS THAT CITE THIS RECORD
(6 CITINGS)
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RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 6 OF 6 CAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 2003:6031 CAPLUS Full-text
 DOCUMENT NUMBER: 138:56847
 TITLE: Preparation of polymer containing substituted
 triphenylamine units for optical devices
 INVENTOR(S): Towns, Carl; O'dell, Richard
 PATENT ASSIGNEE(S): Cambridge Display Technology Limited, UK
 SOURCE: PCT Int. Appl., 35 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003000773	A1	20030103	WO 2002-GB2803	20020620
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2002314316	A1	20030108	AU 2002-314316	20020620
EP 1397416	A1	20040317	EP 2002-740886	20020620
EP 1397416	B1	20091014		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
JP 2004532348	T	20041021	JP 2003-507173	20020620
AT 445661	T	20091015	AT 2002-740886	20020620
US 20040254324	A1	20041216	US 2004-481439	20040517
US 7351788	B2	20080401		
JP 2009019207	A	20090129	JP 2008-179260	20080709
PRIORITY APPLN. INFO.:			GB 2001-15348	A 20010622
			US 2001-310580P	P 20010807
			JP 2003-507173	A3 20020620
			WO 2002-GB2803	W 20020620

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
 GI

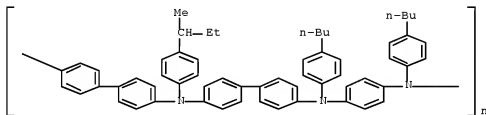


AB The polymer containing a first repeat unit $-\text{ArN(R)Ar}-[\text{N(R')Ar}]_x-$ ($x = 0, 1$; Ar = (un)substituted aryl or heteroaryl; R, R' = H, a substituent) and a second repeat unit that is the same or different from the first repeat unit and comprises a substituted or unsubstituted, aryl or heteroaryl group is made by Suzuki polymerization of (a) a first monomer having the first repeat unit and two reactive boron derivative groups with a second monomer having the second repeat unit and ≥ 2 reactive halide functional groups; or (b) a first monomer having the first repeat unit and one reactive halide functional group and one reactive boron derivative group with a second monomer having the second repeat unit and one reactive halide functional group and one reactive boron derivative group in the presence of a base and a catalyst. The polymers are useful for optical devices such as electroluminescent devices. Thus, 4.79 g dibromo-PFB I was mixed with 5 g pinacol diester of PFB boronic acid and 25 mg dichlorobis(triphenylphosphine) palladium in 100 mL toluene and end-capped with bromobenzene and glycol ester of benzenboronic acid to give 6.3 g polymer with number average mol. weight 23,000.

IT 479517-33-4DP, reaction products with bromobenzene and glycol benzenboronate 479517-43-6DP, reaction products with bromobenzene and glycol benzenboronate 479517-48-1DP, reaction products with bromobenzene and glycol benzenboronate
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (preparation of polymer containing substituted triphenylamine units for optical devices)

RN 479517-33-4 CAPLUS

CN Poly[[4-(4-butylphenyl)imino]-1,4-phenylene[[4-(4-butylphenyl)imino][1,1'-biphenyl]-4,4'-diyl[[4-(1-methylpropyl)phenyl]imino][1,1'-biphenyl]-4,4'-diyl] (9CI) (CA INDEX NAME)



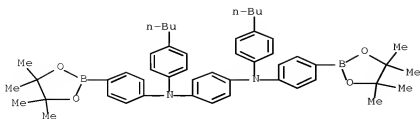
RN 479517-43-6 CAPLUS

CN 1,4-Benzenediamine, N,N'-bis(4-bromophenyl)-N,N'-bis(4-butylphenyl)-, polymer with N,N'-bis(4-butylphenyl)-N,N'-bis[4-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)phenyl]-1,4-benzenediamine (9CI) (CA INDEX NAME)

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CRN 479517-42-5

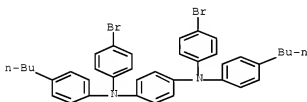
CMF C50 H62 B2 N2 O4



CM 2

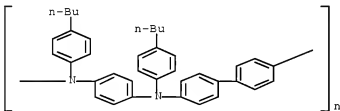
CRN 372200-89-0

CMF C38 H38 Br2 N2



RN 479517-48-1 CAPLUS

CN Poly[[(4-butylphenyl)imino]-1,4-phenylene[(4-butylphenyl)imino][1,1'-biphenyl]-4,4'-diyl] (CA INDEX NAME)



IT 479517-28-7DPF, reaction products with bromobenzene and glycol benzenboronate

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(starting materials; preparation of polymer containing substituted triphenylamine units for optical devices)

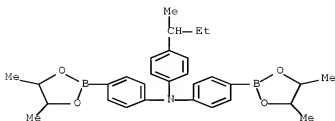
RN 479517-28-7 CAPLUS

CN 1,4-Benzenediamine, N,N'-bis(4-bromophenyl)-N,N'-bis(4-butylphenyl)-, polymer with N,N-bis[4-(4,5-dimethyl-1,3,2-dioxaborolan-2-yl)phenyl]-4-(1-methylpropyl)benzenamine (9CI) (CA INDEX NAME)

CM 1

CRN 479517-27-6

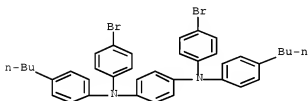
CMF C30 H37 B2 N O4



CM 2

CRN 3/2200-89-0

CMF C38 H38 Br2 N2



OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD
(3 CITINGS)
REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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L6 6 S L5 AND SUZ?

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This file contains CAS Registry Numbers for easy and accurate

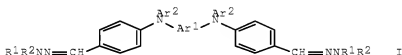
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L5 ANSWER 430 OF 440 CAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 1996:733519 CAPLUS Full-text
DOCUMENT NUMBER: 125:343202
ORIGINAL REFERENCE NO.: 125:63865a,63868a
TITLE: Organic electric-field electroluminescent
device with hydrazone compound
INVENTOR(S): Kawarasaki, Morihiro; Fujii, Ichiro; Enomoto, Kazuhiro
PATENT ASSIGNEE(S): Sharp Kk, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 08231950	A	19960910	JP 1995-40905	19950228

PRIORITY APPLN. INFO.: JP 1995-40905 19950228
OTHER SOURCE(S): MARPAT 125:343202
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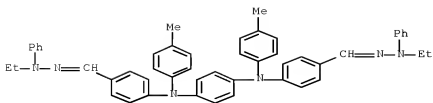
AB The device contains (A) an anode successively coated with (B) a phosphor-containing electroluminescent layer, (C) a hole-transfer layer with a hydrazone compound I [Ar1 = C6-12 arylene; Ar2 = C6-12 (substituted) aryl, (substituted) aralkyl, C1-4 alkyl, allyl; R1-2 = C6-12 (substituted) aryl, C1-4 alkyl, (substituted) aralkyl, heterocyclic], and (D) a cathode. The device with the hydrazone compound shows no crystallinity change by heating and long service life.

IT 183944-55-0 183944-57-2 183944-61-8
183944-63-0 183944-64-1 183944-65-2
183944-67-4 183944-69-6

RL: TEM (Technical or engineered material use); USES (Uses)
(organic elec.-field electroluminescent device containing
hole-transfer layer with hydrazone)

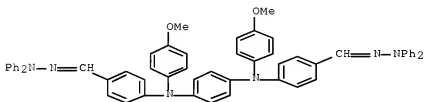
RN 183944-55-0 CAPLUS

CN Benzaldehyde, 4,4'-[1,4-phenylenebis[(4-methylphenyl)imino]]bis-,
bis(ethylphenylhydrazone) (9CI) (CA INDEX NAME)



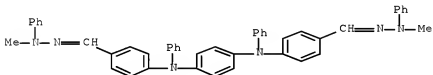
RN 183944-57-2 CAPLUS

CN Benzaldehyde, 4,4'-[1,4-phenylenebis(4-methoxyphenyl)imino]]bis-, bis(diphenylhydrazone) (9CI) (CA INDEX NAME)



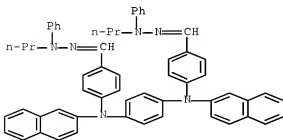
RN 183944-61-8 CAPLUS

CN Benzaldehyde, 4,4'-[1,4-phenylenebis(phenylimino)]bis-, bis(methylphenylhydrazone) (9CI) (CA INDEX NAME)



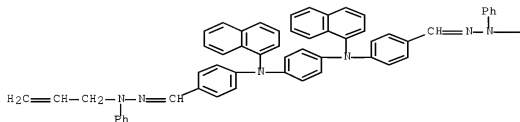
RN 183944-63-0 CAPLUS

CN Benzaldehyde, 4,4'-[1,4-phenylenebis(2-naphthalenylimino)]bis-, bis(phenylpropylhydrazone) (9CI) (CA INDEX NAME)



RN 183944-64-1 CAPLUS
 CN Benzaldehyde, 4,4'-[1,4-phenylenebis(1-naphthalenylimino)]bis-,
 bis(phenyl-2-propenylhydrazone) (9CI) (CA INDEX NAME)

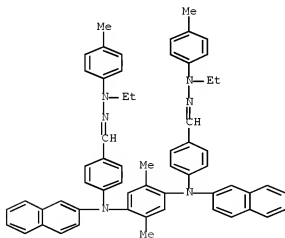
PAGE 1-A



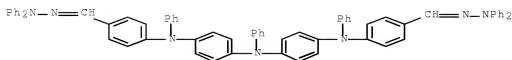
PAGE 1-B



RN 183944-65-2 CAPLUS
 CN Benzaldehyde, 4,4'-[(2,5-dimethyl-1,4-phenylene)bis(2-naphthalenylimino)]bis-, bis[ethyl(4-methylphenyl)hydrazone] (9CI) (CA INDEX NAME)

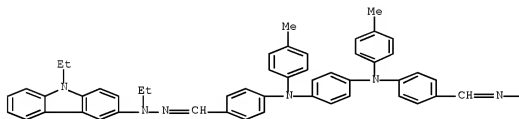


RN 183944-67-4 CAPLUS
 CN Benzaldehyde, 4,4'-[(phenylimino)bis[4,1-phenylene(phenylimino)]]bis-,
 bis(diphenylhydrazone) (9CI) (CA INDEX NAME)

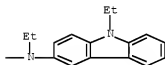


RN 183944-69-6 CAPLUS
 CN Benzaldehyde, 4,4'-(1,4-phenylenebis[(4-methylphenyl)imino]]bis-,
 bis[ethyl(9-ethyl-9H-carbazol-3-yl)hydrazone] (9CI) (CA INDEX NAME)

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L5 ANSWER 431 OF 440 CAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 1996:612438 CAPLUS Full-text
 DOCUMENT NUMBER: 125:234385
 ORIGINAL REFERENCE NO.: 125:43563a, 43566a
 TITLE: Positive hole-transporting material and usage thereof
 INVENTOR(S): Enokida, Toshio; Tamano, Michiko; Onikubo, Shunichi
 PATENT ASSIGNEE(S): Toyo Ink Mfg Co, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 16 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08179526	A	19960712	JP 1994-319695	19941222
JP 3269300	B2	20020325		

GI For diagram(s), see printed CA Issue.

AB The material has the general formula ABA [A = diamine derivative residue I ; R1-9= H, halo, (substituted) alkyl, (substituted) alkoxy, (substituted) thioalkoxy, cyano, (mono- or di-substituted) amino, OH, SH, (substituted) aryloxy, (substituted) arylthio, (substituted) aromatic ring, (substituted) heterocycle; ≥ 1 of each of R1-3, R4-6, and R7-9 is not H and the adjacent groups may form alicyclic, carbocyclic aromatic, or heterocyclic aromatic rings which may be substituted; X = divalent aromatic ring residue; B = alicyclic residue II ; Y = (substituted) alkyl; n = 2-7; m = 0-2n]. Organic electroluminescent devices comprising ≥ 1 organic compound thin film luminescent layers ≥ 1 of which contains the material, and electrophotog. photoreceptors containing a charge-generating agent and the material are also claimed. The material shows good pos. hole-transporting properties and high quality electroluminescent devices and photoreceptors are obtained by using it. Thus, III was used typically for the material, which was prepared by reacting cyclohexanone with 9,10-bis(4-butylphenylphenylamino)phenanthrene.

IT 181796-78-1 181796-81-6

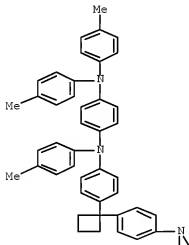
RL: DEV (Device component use); USES (Uses)

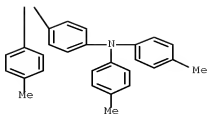
(pos. hole transporting agent for electrophotog. photoreceptor and electroluminescent device)

RN 181796-78-1 CAPLUS

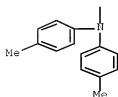
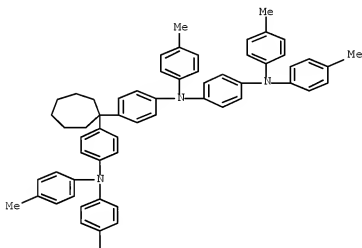
CN 1,4-Benzenediamine, N,N'-(cyclobutylidenedi-4,1-phenylene)bis[N,N',N'-tris(4-methylphenyl)- (9CI) (CA INDEX NAME)]

PAGE 1-A





RN 181796-81-6 CAPLUS
 CN 1,4-Benzenediamine, N,N'-(cycloheptylidenedi-4,1-phenylene)bis[N,N',N'-tris(4-methylphenyl)- (9CI) (CA INDEX NAME)

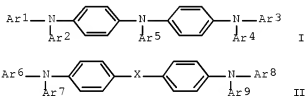


L5 ANSWER 432 OF 440 CAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 1996:580231 CAPLUS [Full-text](#)
 DOCUMENT NUMBER: 125:234547
 ORIGINAL REFERENCE NO.: 125:43591a
 TITLE: Organic electroluminescent element, organic

INVENTOR(S): thin film, and triamine compounds
Kawamura, Hisayuki; Nakamura, Hiroaki; Hosokawa,
Chishio
PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Japan
SOURCE: PCT Int. Appl., 94 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9622273	A1	19960725	WO 1996-JP82	19960119
W: CN, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
JP 08193191	A	19960730	JP 1995-6254	19950119
JP 3306735	B2	20020724		
JP 09095470	A	19970408	JP 1995-252979	19950929
JP 3139528	B2	20010305		
EP 805143	A1	19971105	EP 1996-900715	19960119
EP 805143	B1	20011205		
R: BE, CH, DE, FR, GB, IT, LI, NL, SE				
CN 1168132	A	19971217	CN 1996-191527	19960119
CN 1152607	C	20040602		
US 6074734	A	20000613	US 1997-860927	19970721
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			JP 1995-252979	A 19950929
			WO 1996-JP82	W 19960119

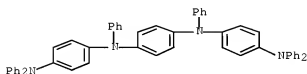
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
GI



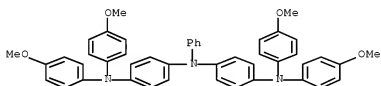
AB Triamine compds. are represented by general formula I (Ar1-5 = C6-18 aryl).
An organic electroluminescent element comprises a pair of electrodes and, sandwiched therebetween, an organic compound layer containing at least a luminescent band layer and a hole transport band layer comprising a hole injection layer containing the triamine compound and a hole transport layer; and a two-layered organic thin film comprising a layer that contains I and has a thickness of 5 nm to 5 μ m and another layer that contains a compound II (X = methylene, phenylene, biphenylene, O, S; Ar6-10 = C6-18 aryl) and has a thickness of 5 nm to 5 μ m. The invention provides an organic electroluminescent element reduced in the risk of causing dielec. breakdown even when stored for long and remarkably enhanced in electroluminescence efficiency, a long-lived organic electroluminescent element excellent in the stability of electroluminescence even when continuously driven for long, and

an organic thin film excellent in hole injection and transport characteristics.

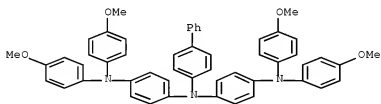
IT 141546-10-3 181367-10-2 181367-42-0
 RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
 (triamine compound thin film for electroluminescent element)
 RN 141546-10-3 CAPLUS
 CN 1,4-Benzenediamine, N1,N4-bis[4-(diphenylamino)phenyl]-N1,N4-diphenyl-
 (CA INDEX NAME)



RN 181367-10-2 CAPLUS
 CN 1,4-Benzenediamine, N1-[4-[bis(4-methoxyphenyl)amino]phenyl]-N4,N4-bis(4-methoxyphenyl)-N1-phenyl- (CA INDEX NAME)



RN 181367-42-0 CAPLUS
 CN 1,4-Benzenediamine, N1-[1,1'-biphenyl]-4-yl-N1-[4-[bis(4-methoxyphenyl)amino]phenyl]-N4,N4-bis(4-methoxyphenyl)- (CA INDEX NAME)



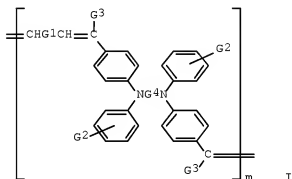
OS.CITING REF COUNT: 13 THERE ARE 13 CAPLUS RECORDS THAT CITE THIS RECORD (15 CITINGS)
 REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 433 OF 440 CAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 1996:560311 CAPLUS Full-text
 DOCUMENT NUMBER: 125:196755

ORIGINAL REFERENCE NO.: 125:36861a,36864a
 TITLE: Polymeric carrier-transporting materials for electroluminescent devices, electrophotographic photoreceptors, etc.
 INVENTOR(S): Ito, Juichi; Sato, Hisaya; Hayashi, Takako
 PATENT ASSIGNEE(S): Toppan Printing Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 20 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08157575	A	19960618	JP 1994-330622	19941207
JP 3482719	B2	20040106		

PRIORITY APPLN. INFO.: JP 1994-330622 19941207
 GI



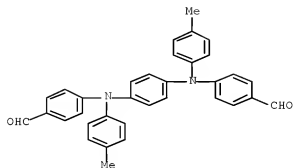
AB The title materials capable of forming carrier-transporting layers by spin coating or casting with $T_g \geq 120^\circ$ and good mech. strength have the general formula I [$m = d.p.$; $G_1 =$ direct bond, arylene, alkylene, alkylenedioxy, other linking group; $G_2 =$ (halo)alkyl; $G_3 = H$, alkyl; $G_4 =$ phenylene, biphenylene, other linking group]. N,N'-bis(4-formylphenyl)-N,N'-di-p-tolyl-p-phenylenediamine was prepared and polymerized with m-xylylbis(triphenylphosphonium chloride).

IT 181064-89-1P 181064-90-4P
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (polymeric carrier-transporting materials for electroluminescent devices and electrophotog. photoreceptors)

RN 181064-89-1 CAPLUS

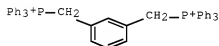
CN Phosphonium, [1,3-phenylenebis(methylene)]bis(triphenyl-, dichloride, polymer with 4,4'-[1,4-phenylenebis(4-methylphenyl)imino]]bis(benzaldehyde) (9CI) (CA INDEX NAME)

CRN 131660-39-4
 CMF C34 H28 N2 O2



CM 2

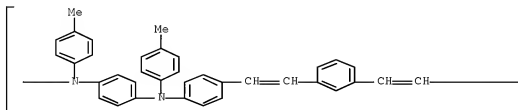
CRN 66726-75-8
 CMF C44 H38 P2 . 2 C1

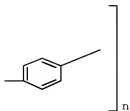


●2 C1-

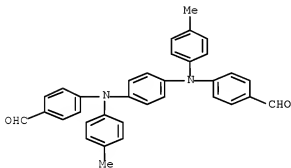
RN 181064-90-4 CAPLUS
 CN Poly[[(4-methylphenyl)imino]-1,4-phenylene[(4-methylphenyl)imino]-1,4-phenylene-1,2-ethenediyl-1,3-phenylene-1,2-ethenediyl-1,4-phenylene] (9CI)
 (CA INDEX NAME)

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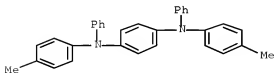




IT 131660-39-4P 138171-14-9P
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT
 (Reactant or reagent)
 (polymeric carrier-transporting materials for
 electroluminescent devices and electrophotog. photoreceptors)
 RN 131660-39-4 CAPLUS
 CN Benzaldehyde, 4,4'-[1,4-phenylenebis[(4-methylphenyl)imino]]bis- (CA
 INDEX NAME)



RN 138171-14-9 CAPLUS
 CN 1,4-Benzenediamine, N1,N4-bis(4-methylphenyl)-N1,N4-diphenyl- (CA INDEX
 NAME)



OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD
 (2 CITINGS)

L5 ANSWER 434 OF 440 CAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 1996:462259 CAPLUS Full-text
 DOCUMENT NUMBER: 125:127324

ORIGINAL REFERENCE NO.: 125:23605a,23608a
 TITLE: Organic thin-film electroluminescent device
 INVENTOR(S): Utsuki, Koji; Hirano, Akira; Tsuruoka, Eriko; Ikeda, Naoyasu
 PATENT ASSIGNEE(S): Nippon Electric Co, Japan; Samsung Sdi Co., Ltd.
 SOURCE: Jpn. Kokai Tokkyo Koho, 25 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08109373	A	19960430	JP 1994-247930	19941013
JP 3758694	B2	20060322		
US 5858562	A	19990112	US 1995-542624	19951013

PRIORITY APPLN. INFO.: JP 1994-247930 A 19941013

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

OTHER SOURCE(S): MARPAT 125:127324

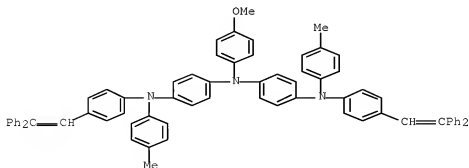
AB An organic thin-film electroluminescent device comprising a hole transporting region sandwiched between a pair of electrodes, the hole transporting region consisting of a hole injecting layer and/or a hole transporting layer in contact with the anode, and a current blocking layer in contact with the light emitting layer, wherein the hole transporting layer comprises bistrisphenylaminestyril derivs. represented by (XAr1)(Ar2)NAr3AAr4N(Ar5Y)(Ar6) [A = C1-10 alkylidene, cycloalkylidene, O, S, or amino; Ar1, Ar3, Ar4, Ar5 = arylene; Ar2, Ar6 = aryl; X, Y = R1C: C(Ar7)(Ar8) (Ar7, Ar8 = aryl; R1 = H, halo, OH, amino, C1-6 alkyl)].

IT 152268-53-6 152268-54-7 152268-56-9
 152268-57-0 152268-58-1 152268-59-2
 152268-60-5 152268-61-6 152268-62-7
 152268-63-8 152268-64-9 152268-65-0
 179167-65-8 179167-66-9

RL: DEV (Device component use); USES (Uses)
 (hole transporting layer for organic thin layer electroluminescent device)

RN 152268-53-6 CAPLUS

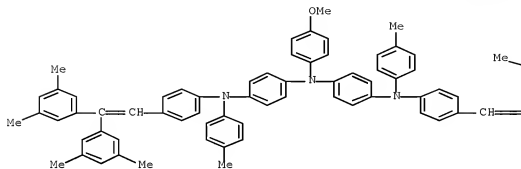
CN 1,4-Benzenediamine, N1-[4-(2,2-diphenylethenyl)phenyl]-N4-[4-[[4-(2,2-diphenylethenyl)phenyl](4-methylphenyl)amino]phenyl]-N4-(4-methoxyphenyl)-N1-(4-methylphenyl)- (CA INDEX NAME)



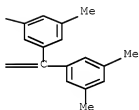
RN 152268-54-7 CAPLUS

CN 1,4-Benzenediamine, N1-[4-[2,2-bis(3,5-dimethylphenyl)ethenyl]phenyl]-N4-[4-[4-[2,2-bis(3,5-dimethylphenyl)ethenyl]phenyl](4-methylphenyl)amino]phenyl]-N4-(4-methoxyphenyl)-N1-(4-methylphenyl)- (CA INDEX NAME)

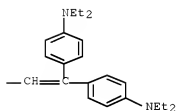
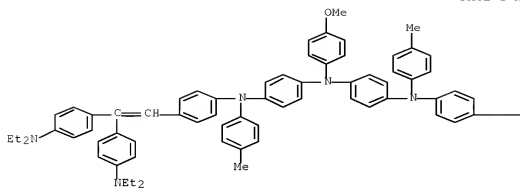
PAGE 1-A



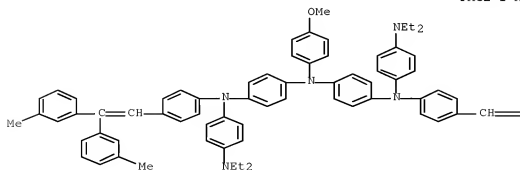
PAGE 1-B

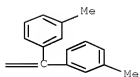


RN 152268-56-9 CAPLUS
CN 1,4-Benzenediamine, N1-[4-[2,2-bis[4-(diethylamino)phenyl]ethenyl]phenyl]-N4-[4-[4-[2,2-bis[4-(diethylamino)phenyl]ethenyl]phenyl](4-methylphenyl)amino]phenyl]-N4-(4-methoxyphenyl)-N1-(4-methylphenyl)- (CA INDEX NAME)



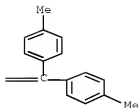
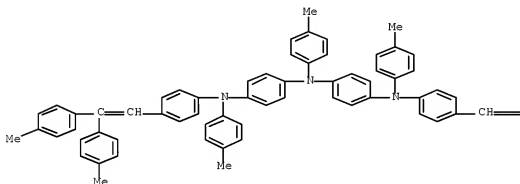
RN 152268-57-0 CAPLUS
 CN 1,4-Benzenediamine, N1-[4-[2,2-bis(3-methylphenyl)ethenyl]phenyl]-N4-[4-
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 (diethylamino)phenyl]amino]phenyl]-N1-[4-(diethylamino)phenyl]-N4-(4-
 methoxyphenyl)- (CA INDEX NAME)





RN 152268-58-1 CAPLUS

CN 1,4-Benzenediamine, N1-[4-[2,2-bis(4-methylphenyl)ethenyl]phenyl]-N4-[4-[4-[2,2-bis(4-methylphenyl)ethenyl]phenyl](4-methylphenyl)amino]phenyl]-N1,N4-bis(4-methylphenyl)- (CA INDEX NAME)

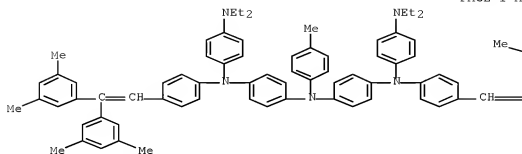


RN 152268-59-2 CAPLUS

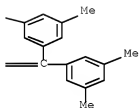
CN 1,4-Benzenediamine, N1-[4-[2,2-bis(3,5-dimethylphenyl)ethenyl]phenyl]-N4-[4-[4-[2,2-bis(3,5-dimethylphenyl)ethenyl]phenyl](4-methylphenyl)amino]phenyl]-N1,N4-bis(4-methylphenyl)- (CA INDEX NAME)

(diethylamino)phenyl]amino]phenyl]-N1-[4-(diethylamino)phenyl]-N4-(4-methylphenyl)- (CA INDEX NAME)

PAGE 1-A



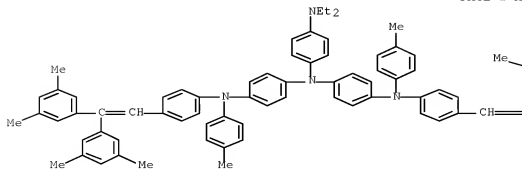
PAGE 1-B

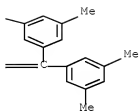


RN 152268-60-5 CAPLUS

CN 1,4-Benzenediamine, N1-[4-[2,2-bis(3,5-dimethylphenyl)ethenyl]phenyl]-N4-[4-[4-[2,2-bis(3,5-dimethylphenyl)ethenyl]phenyl] (4-methylphenyl) amino]phenyl]-N4-[4-(diethylamino)phenyl]-N1-(4-methylphenyl)- (CA INDEX NAME)

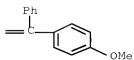
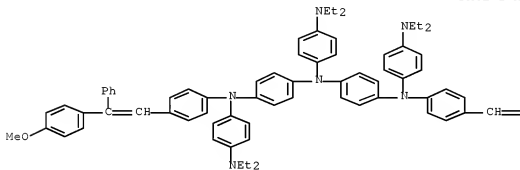
PAGE 1-A





RN 152268-61-6 CAPLUS

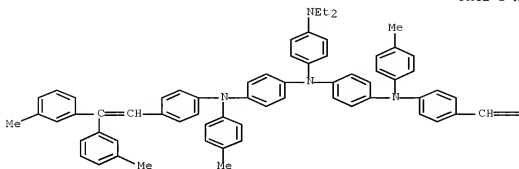
CN 1,4-Benzenediamine, N1,N4-bis[4-(diethylamino)phenyl]-N1-[4-[[4-(diethylamino)phenyl][4-[2-(4-methoxyphenyl)-2-phenylethenyl]phenyl]amino]phenyl]-N4-[4-[2-(4-methoxyphenyl)-2-phenylethenyl]phenyl]- (CA INDEX NAME)



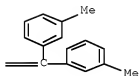
RN 152268-62-7 CAPLUS

CN 1,4-Benzenediamine, N1-[4-[2,2-bis(3-methylphenyl)ethenyl]phenyl]-N4-[4-
[[4-[2,2-bis(3-methylphenyl)ethenyl]phenyl](4-methylphenyl)amino]phenyl]-
N4-[4-(diethylamino)phenyl]-N1-(4-methylphenyl)- (CA INDEX NAME)

PAGE 1-A



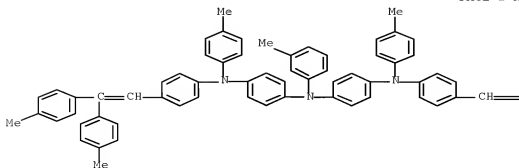
PAGE 1-B



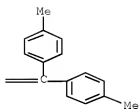
RN 152268-63-8 CAPLUS

CN 1,4-Benzenediamine, N1-[4-[2,2-bis(4-methylphenyl)ethenyl]phenyl]-N4-[4-
[[4-[2,2-bis(4-methylphenyl)ethenyl]phenyl](4-methylphenyl)amino]phenyl]-
N4-(3-methylphenyl)-N1-(4-methylphenyl)- (CA INDEX NAME)

PAGE 1-A



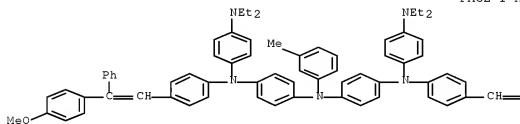
PAGE 1-B



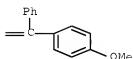
RN 152268-64-9 CAPLUS

CN 1,4-Benzenediamine, N1-[4-(diethylamino)phenyl]-N4-[4-[[4-(diethylamino)phenyl][4-[2-(4-methoxyphenyl)-2-phenylethenyl]phenyl]amino]phenyl]-N1-[4-[2-(4-methoxyphenyl)-2-phenylethenyl]phenyl]-N4-(3-methylphenyl)- (CA INDEX NAME)

PAGE 1-A

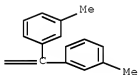
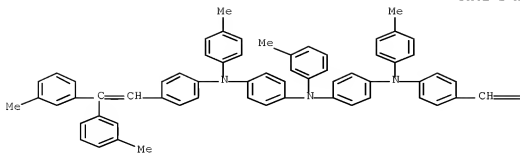


PAGE 1-B



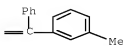
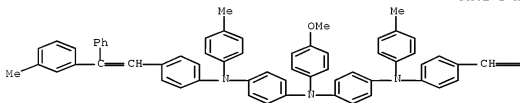
RN 152268-65-0 CAPLUS

CN 1,4-Benzenediamine, N1-[4-[2,2-bis(3-methylphenyl)ethenyl]phenyl]-N4-[4-[[4-[2,2-bis(3-methylphenyl)ethenyl]phenyl](4-methylphenyl)amino]phenyl]-N4-(3-methylphenyl)-N1-(4-methylphenyl)- (CA INDEX NAME)



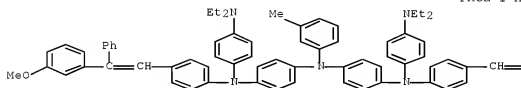
RN 179167-65-8 CAPLUS

CN 1,4-Benzenediamine, N1-(4-methoxyphenyl)-N4-(4-methylphenyl)-N1-[4-[(4-methylphenyl)[4-[2-(3-methylphenyl)-2-phenylethenyl]phenyl]amino]phenyl]-N4-[4-[2-(3-methylphenyl)-2-phenylethenyl]phenyl]- (CA INDEX NAME)

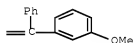


RN 179167-66-9 CAPLUS
 CN 1,4-Benzenediamine, N1-[4-(diethylamino)phenyl]-N4-[4-[[4-(diethylamino)phenyl][4-[2-(3-methoxyphenyl)-2-phenylethenyl]phenyl]amino]phenyl]-N1-[4-[2-(3-methoxyphenyl)-2-phenylethenyl]phenyl]-N4-(3-methylphenyl)- (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD
 (3 CITINGS)

L5 ANSWER 435 OF 440 CAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 1996:294601 CAPLUS Full-text
 DOCUMENT NUMBER: 124:328419
 ORIGINAL REFERENCE NO.: 124:60655a, 60658a
 TITLE: Hole-transporting material for organic
 electroluminescence device or
 electrophotographic photoreceptor
 INVENTOR(S): Tamano, Michiko; Onikubo, Toshikazu; Uemura,
 Toshikyuki; Ogawa, Tadashi; Enokida, Toshio
 PATENT ASSIGNEE(S): Toyo Ink Manufacturing Co., Ltd., Japan
 SOURCE: Eur. Pat. Appl., 34 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 699654	A1	19960306	EP 1995-305450	19950804
EP 699654	B1	19990331		
R: DE, FR, GB				
JP 08227165	A	19960903	JP 1995-164912	19950630
JP 3261930	B2	20020304		
JP 08100038	A	19960416	JP 1995-171739	19950707

JP 3296147 B2 20020624
 US 5681664 A 19971028 US 1995-510535 19950802
 PRIORITY APPLN. INFO.: JP 1994-183198 A 19940804
 JP 1994-319694 A 19941222

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB A hole-transporting material of formula H-A-[-B-A]_n-B-A-H has excellent hole-transporting capability and excellent durability, wherein A is a specified aromatic amine derivative residue, B is a residue, and n is an integer of 1-5000. The materials may be included in an organic EL device of an electrophotog. photoreceptor which are excellent in stability in continuous long-term use.

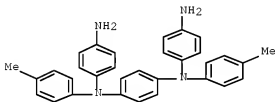
IT 176443-47-3 176443-48-4 176443-77-9
 176443-81-5
 RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
 (hole-transporting material for EL device or electrophotog. photoreceptor)

RN 176443-47-3 CAPLUS

CN Cyclopentanone, polymer with N,N'-bis(4-aminophenyl)-N,N'-bis(4-methylphenyl)-1,4-benzenediamine (9CI) (CA INDEX NAME)

CM 1

CRN 176443-17-7
 CMF C32 H30 N4



CM 2

CRN 120-92-3
 CMF C5 H8 O

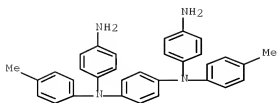


RN 176443-48-4 CAPLUS

CN Cyclooctanone, polymer with N,N'-bis(4-aminophenyl)-N,N'-bis(4-methylphenyl)-1,4-benzenediamine (9CI) (CA INDEX NAME)

CM 1

CRN 176443-17-7
 CMF C32 H30 N4



CM 2

CRN 502-49-8

CMF C8 H14 O



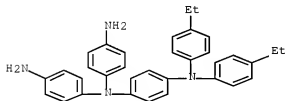
RN 176443-77-9 CAPLUS

CN Cyclohexanone, 3,3,5-trimethyl-, polymer with
N,N-bis(4-aminophenyl)-N',N'-bis(4-ethylphenyl)-1,4-benzenediamine (9CI)
(CA INDEX NAME)

CM 1

CRN 176443-76-8

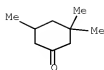
CMF C34 H34 N4



CM 2

CRN 873-94-9

CMF C9 H16 O



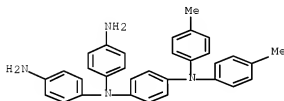
RN 176443-81-5 CAPLUS

CN Cycloheptanone, polymer with N,N-bis(4-aminophenyl)-N',N'-bis(4-methylphenyl)-1,4-benzenediamine (9CI) (CA INDEX NAME)

CM 1

CRN 176443-80-4

CMF C32 H30 N4



CM 2

CRN 502-42-1

CMF C7 H12 O



IT 176443-18-8P 176443-19-9P

RL: DEV (Device component use); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses)

(prepared as hole-transporting material for EL device or electrophotog. photoreceptor)

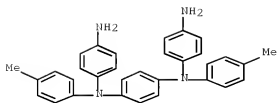
RN 176443-18-8 CAPLUS

CN Cyclohexanone, polymer with N,N'-bis(4-aminophenyl)-N,N'-bis(4-methylphenyl)-1,4-benzenediamine (9CI) (CA INDEX NAME)

CM 1

CRN 176443-17-7

CMF C32 H30 N4



CM 2

CRN 108-94-1

CMF C6 H10 O



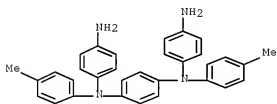
RN 176443-19-9 CAPLUS

CN Cyclohexanone, 4-methyl-, polymer with
N,N'-bis(4-aminophenyl)-N,N'-bis(4-methylphenyl)-1,4-benzenediamine (9CI)
(CA INDEX NAME)

CM 1

CRN 176443-17-7

CMF C32 H30 N4



CM 2

CRN 589-92-4

CMF C7 H12 O



OS.CITING REF COUNT: 11 THERE ARE 11 CAPLUS RECORDS THAT CITE THIS RECORD (17 CITINGS)

L5 ANSWER 436 OF 440 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1995:562195 CAPLUS Full-text

DOCUMENT NUMBER: 123:20922

ORIGINAL REFERENCE NO.: 123:3811a,3814a

TITLE: Molecular design of hole transport materials for obtaining high durability in organic electroluminescent diodes

AUTHOR(S): Adachi, Chihaya; Nagai, Kazukiyo; Tamoto, Nozomu
CORPORATE SOURCE: Chemical Products R and D Center, Ricoh Co., Ltd., Shizuoka, 410, Japan

SOURCE: Applied Physics Letters (1995), 66(20), 2679-81
CODEN: APPLAB; ISSN: 0003-6951

PUBLISHER: American Institute of Physics

DOCUMENT TYPE: Journal

LANGUAGE: English

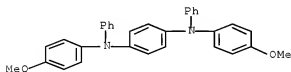
AB The mol. design of hole transport materials (HTMs) for producing high durability in organic layered electroluminescent (EL) diodes was elucidated. The durability tests were examined using 14 hole transport materials in the cell structure of an anode/hole transport layer (HTL)/emitter layer (EML)/cathode. The ionization potential (Ip) of HTLs is the dominant factor for obtaining high durability in organic EL devices. The formation of the small energy barrier at the interface of a HTL/anode was required for high durability. Also, no straightforward relations between m.p., glass transition temperature of the HTMs, and durability of the EL devices were observed. The EL device using the HTM having a low Ip (5.08 eV) showed an especially remarkable stability. In this case, the half-life period of the initial luminance was beyond 500 h.

IT 124526-50-7 138171-14-9

RL: DEV (Device component use); USES (Uses)
(hole transport material for obtaining high durability in organic electroluminescent diodes)

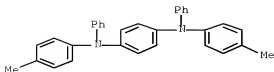
RN 124526-50-7 CAPLUS

CN 1,4-Benzenediamine, N1,N4-bis(4-methoxyphenyl)-N1,N4-diphenyl- (CA INDEX NAME)



RN 138171-14-9 CAPLUS

CN 1,4-Benzenediamine, N1,N4-bis(4-methylphenyl)-N1,N4-diphenyl- (CA INDEX NAME)

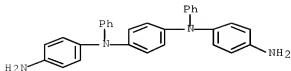


OS.CITING REF COUNT: 258 THERE ARE 258 CAPLUS RECORDS THAT CITE THIS RECORD (261 CITINGS)

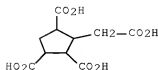
L5 ANSWER 437 OF 440 CAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 1995:561327 CAPLUS Full-text
 DOCUMENT NUMBER: 122:302641
 ORIGINAL REFERENCE NO.: 122:54869a,54872a
 TITLE: Organic thin-film electroluminescence device
 INVENTOR(S): Ito, Juichi
 PATENT ASSIGNEE(S): Toppan Printing Co Ltd, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 06338392	A	19941206	JP 1993-126717	19930528
JP 2848189	B2	19990120		

PRIORITY APPLN. INFO.: JP 1993-126717 19930528
 AB The title device, wherein the hole injection/transport layer comprises a aliphatic tetracarboxylic anhydride-based polyimide.
 IT 163185-95-3
 RL: DEV (Device component use); USES (Uses)
 (aliphatic tetracarboxylic anhydride hole injection/transport layer in electroluminescent devices)
 RN 163185-95-3 CAPLUS
 CN 1,2,4-Cyclopentanetricarboxylic acid, 3-(carboxymethyl)-, polymer with N,N'-bis(4-aminophenyl)-N,N'-diphenyl-1,4-benzenediamine (9CI) (CA INDEX NAME)
 CM 1
 CRN 111341-76-5
 CMF C30 H26 N4



CRN 24434-90-0
CMF C10 H12 O8



OS.CITING REF COUNT: 4 THERE ARE 4 CAPLUS RECORDS THAT CITE THIS RECORD
(4 CITINGS)

L5 ANSWER 438 OF 440 CAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 1994:545550 CAPLUS Full-text
DOCUMENT NUMBER: 121:145550
ORIGINAL REFERENCE NO.: 121:26101a,26104a
TITLE: Organic thin-film electroluminescent element
INVENTOR(S): Adachi, Chihaya; Oota, Masabumi; Sakon, Hirota;
Takahashi, Toshihiko
PATENT ASSIGNEE(S): Ricoh Kk, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 05299174	A	19931112	JP 1992-126815	19920420
PRIORITY APPLN. INFO.:			JP 1992-126815	19920420

AB In the title element comprising an anode, a cathode, and 1 or a plurality of organic compound layers sandwiched by the anode and cathode, the relative difference of the ionization potentials of the anode (preferably an ITO electrode) and an organic compound layer (may be organic hole transport layer, organic hole transport light-emitting layer, or a single light-emitting organic compound layer) in contact with the anode is <0.85 eV. The electroluminescent element shows high initial luminance-maintaining ratio and superior durability.

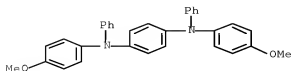
IT 124526-50-7 138171-14-9

RL: USES (Uses)

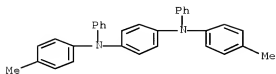
(organic thin-film electroluminescent element with hole transport layer of, ionization potential of)

RN 124526-50-7 CAPLUS

CN 1,4-Benzenediamine, N1,N4-bis(4-methoxyphenyl)-N1,N4-diphenyl- (CA INDEX NAME)



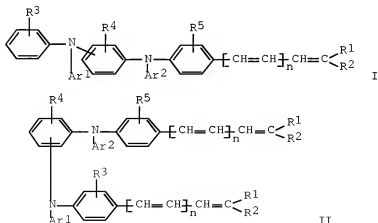
RN 138171-14-9 CAPLUS
 CN 1,4-Benzenediamine, N1,N4-bis(4-methylphenyl)-N1,N4-diphenyl- (CA INDEX NAME)



L5 ANSWER 439 OF 440 CAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 1994:496254 CAPLUS Full-text
 DOCUMENT NUMBER: 121:96254
 ORIGINAL REFERENCE NO.: 121:17071a,17074a
 TITLE: Organic electroluminescence device
 INVENTOR(S): Suzuki, Shinichi; Shibata, Toyoko; Takeuchi, Shigeki
 PATENT ASSIGNEE(S): Konishiroku Photo Ind, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 28 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 06017046	A	19940125	JP 1992-173177	19920630

PRIORITY APPLN. INFO.:
 OTHER SOURCE(S): MARPAT 121:96254
 GI



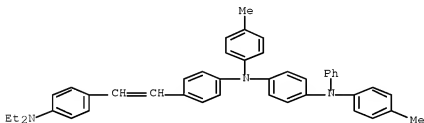
AB The title device, suited for use as a flat-panel display or a plane light source, comprises ≥ 1 layer containing I or II (R1, R3 = H, (substituted) alkyl, aryl, aralkyl, heterocyclyl, provided that R1 and R2 may not both be H, and R1 and R2 may together form a ring; R3, R4, R5 = H, halo, alkyl, alkoxy; Ar1, Ar2 = (substituted) alkyl, aryl, aralkyl; n = 0, 1].

IT 131312-31-7 131660-34-9 131660-38-3
 156204-52-3 156204-58-9 156204-59-0
 156204-60-3 156204-61-4 156204-62-5
 156204-63-6

RL: DEV (Device component use); USES (Uses)
 (electroluminescent device from)

RN 131312-31-7 CAPLUS

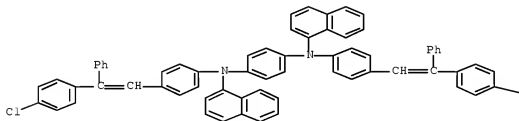
CN 1,4-Benzenediamine, N1,N4-bis[4-[2-[4-(diethylamino)phenyl]ethenyl]phenyl]-N1,N4-bis(4-methylphenyl)-N4-phenyl- (CA INDEX NAME)



RN 131660-34-9 CAPLUS

CN 1,4-Benzenediamine, N1,N4-bis[4-[2-(4-chlorophenyl)-2-phenylethenyl]phenyl]-N1,N4-di-1-naphthalenyl- (CA INDEX NAME)

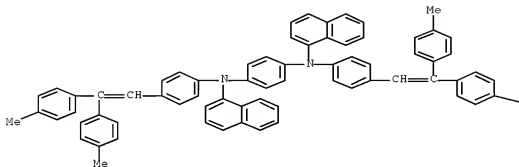
PAGE 1-A



PAGE 1-B

RN 131660-38-3 CAPLUS

CN 1,4-Benzenediamine, N1,N4-bis[4-[2,2-bis(4-methylphenyl)ethenyl]phenyl]-
N1,N4-di-1-naphthalenyl- (CA INDEX NAME)

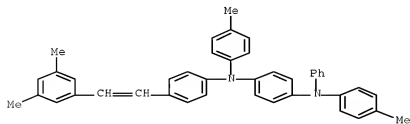


PAGE 1-B

Me

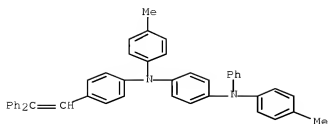
RN 156204-52-3 CAPLUS

CN 1,4-Benzenediamine, N1-[4-[2-(3,5-dimethylphenyl)ethenyl]phenyl]-N1,N4-bis(4-methylphenyl)-N4-phenyl- (CA INDEX NAME)



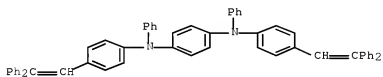
RN 156204-58-9 CAPLUS

CN 1,4-Benzenediamine, N1-[4-(2,2-diphenylethenyl)phenyl]-N1,N4-bis(4-methylphenyl)-N4-phenyl- (CA INDEX NAME)



RN 156204-59-0 CAPLUS

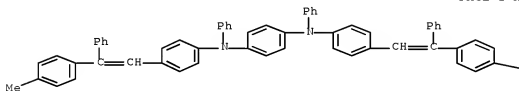
CN 1,4-Benzenediamine, N1,N4-bis[4-(2,2-diphenylethenyl)phenyl]-N1,N4-diphenyl- (CA INDEX NAME)



RN 156204-60-3 CAPLUS

CN 1,4-Benzenediamine, N1,N4-bis[4-[2-(4-methylphenyl)-2-phenylethenyl]phenyl]-N1,N4-diphenyl- (CA INDEX NAME)

PAGE 1-A



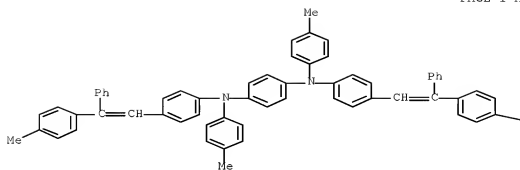
PAGE 1-B



RN 156204-61-4 CAPLUS

CN 1,4-Benzenediamine, N1,N4-bis(4-methylphenyl)-N1,N4-bis[4-[2-(4-methylphenyl)-2-phenylethenyl]phenyl]- (CA INDEX NAME)

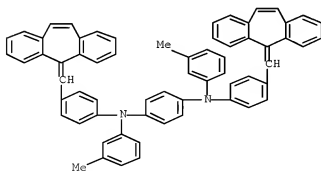
PAGE 1-A



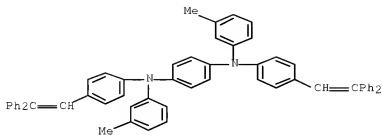
PAGE 1-B

Me

RN 156204-62-5 CAPLUS
 CN 1,4-Benzenediamine, N1,N4-bis[4-(5H-dibenzo[a,d]cyclohepten-5-ylidenemethyl)phenyl]-N1,N4-bis(3-methylphenyl)- (CA INDEX NAME)



RN 156204-63-6 CAPLUS
 CN 1,4-Benzenediamine, N1,N4-bis[4-(2,2-diphenylethenyl)phenyl]-N1,N4-bis(3-methylphenyl)- (CA INDEX NAME)



L5 ANSWER 440 OF 440 CAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 1994:231406 CAPLUS Full-text
 DOCUMENT NUMBER: 120:231406
 ORIGINAL REFERENCE NO.: 120:40761a,40764a
 TITLE: Organic thin film electroluminescent device
 including polyamide hole-transporting layer
 Ito, Juichi
 INVENTOR(S):
 PATENT ASSIGNEE(S): Toppan Printing Co Ltd, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

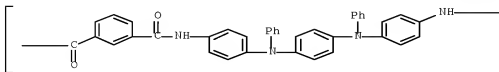
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 05311163	A	19931122	JP 1992-114692	19920507

PRIORITY APPLN. INFO.: JP 1992-114692 19920507
 AB The title device involves at least an anode, a hole-implanting and transporting layer containing a polyamide of [p-CORC(O)NHC6H4-p-N(A1)A2N(A1)C6H4NH]_n (R = dicarboxylic acid residue; A1= aryl; A2 = aromatic diamine residue), a light-emitting layer, and a cathode. The device including the polyamide (e.g., isophthaloyl chloride-N,N'-diphenyl-N,N'-bis(4-aminophenyl)-p-phenylenediamine copolymer) may be manufactured by a high-temperature process, such as spin coating at ≥100°.

IT 152197-05-2F 152220-19-4P
 RL: PREP (Preparation)
 (preparation of, for hole-implanting and transporting layer for electroluminescent device)

RN 152197-05-2 CAPLUS
 CN Poly[imino-1,4-phenylene(phenylimino)-1,4-phenylene(phenylimino)-1,4-phenyleneiminocarbonyl-1,3-phenylenecarbonyl] (CA INDEX NAME)

PAGE 1-A

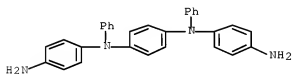


]

RN 152220-19-4 CAPLUS
 CN 1,3-Benzenedicarbonyl dichloride, polymer with
 N,N'-bis(4-aminophenyl)-N,N'-diphenyl-1,4-benzenediamine (9CI) (CA INDEX
 NAME)

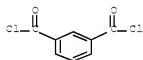
CM 1

CRN 111341-76-5
 CMF C30 H26 N4



CM 2

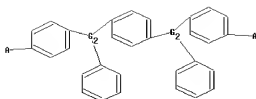
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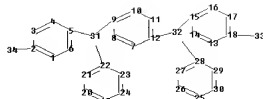
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C₂-H₉-C₂



42-39-40

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chain nodes :
31 32 33 34 39 40 42
ring nodes :
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
24 25 26 27 28 29 30
chain bonds :
2-34 5-31 9-31 12-32 15-32 18-33 22-31 28-32 39-40 39-42
ring bonds :
1-2 1-6 2-3 3-4 4-5 5-6 7-8 7-12 8-9 9-10 10-11 11-12 13-14 13-18 14-
15
15-16 16-17 17-18 19-20 19-24 20-21 21-22 22-23 23-24 25-26 25-30 26-27
27-28 28-29
29-30
exact/norm bonds :
2-34 5-31 9-31 12-32 15-32 18-33 22-31 28-32 39-40 39-42
normalized bonds :
1-2 1-6 2-3 3-4 4-5 5-6 7-8 7-12 8-9 9-10 10-11 11-12 13-14 13-18 14-
15
15-16 16-17 17-18 19-20 19-24 20-21 21-22 22-23 23-24 25-26 25-30 26-27
27-28 28-29
29-30
isolated ring systems :
containing 1 : 7 : 13 : 19 : 25 :
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G1:Ak,H

G2:N,P

G3:B,X

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Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom
11:Atom 12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 17:Atom 18:Atom 19:Atom
20:Atom 21:Atom
22:Atom 23:Atom 24:Atom 25:Atom 26:Atom 27:Atom 28:Atom 29:Atom 30:Atom
31:CLASS 32:CLASS
33:CLASS 34:CLASS 39:Atom 40:CLASS 42:CLASS
Generic attributes :
39:
Saturation : Unsaturated
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=> s l1 full
FULL SEARCH INITIATED 15:11:06 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 9757 TO ITERATE

100.0% PROCESSED 9757 ITERATIONS 1783 ANSWERS
SEARCH TIME: 00.00.01

L2 1783 SEA SSS FUL L1

This file contains CAS Registry Numbers for easy and accurate
substance identification.

=> s l2
L3 1050 L2

=> s l2 and electrolumin?
1050 L2
100932 ELECTROLUMIN?
L4 440 L2 AND ELECTROLUMIN?

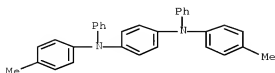
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L4 ANSWER 419 OF 440 CAPLUS COPYRIGHT 2010 ACS ON STN
ACCESSION NUMBER: 1998:204546 CAPLUS Full-text
DOCUMENT NUMBER: 128:263735
ORIGINAL REFERENCE NO.: 128:52077a,52080a
TITLE: Organic ~~electroluminescent~~ element with
exciplex-forming materials
INVENTOR(S): Boerner, Herbert; Busselt, Wolfgang; Justel, Thomas;
Nikol, Hans
PATENT ASSIGNEE(S): Philips Patentverwaltung G.m.b.H., Germany; Philips
Electronics N.V.; Koninklijke Philips Electronics NV
SOURCE: Eur. Pat. Appl., 11 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	---	-----	-----	-----
EP 831676	A2	19980325	EP 1997-202820	19970915
EP 831676	A3	19980715		
EP 831676	B1	20040107		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
DE 19638770	A1	19980326	DE 1996-19638770	19960921
US 5955836	A	19990921	US 1997-933292	19970918
JP 10106748	A	19980424	JP 1997-256865	19970922
			DE 1996-19638770	A 19960921

PRIORITY APPLN. INFO.:
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
AB Electroluminescent devices are described which have an organic active layer
comprising a mixture of a hole-transporting material and an electron-
transporting material which form an exciplex.
IT 138171-14-9
RL: DEV (Device component use); USES (Uses)
(organic ~~electroluminescent~~ elements with exciplex-forming

materials)
 RN 138171-14-9 CAPLUS
 CN 1,4-Benzenediamine, N1,N4-bis(4-methylphenyl)-N1,N4-diphenyl- (CA INDEX NAME)



OS.CITING REF COUNT: 9 THERE ARE 9 CAPLUS RECORDS THAT CITE THIS RECORD (9 CITINGS)

L4 ANSWER 420 OF 440 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1998:175869 CAPLUS Full-text

DOCUMENT NUMBER: 128:223710

ORIGINAL REFERENCE NO.: 128:44195a,44198a

TITLE: Heat-resistant organic electroluminescent device

INVENTOR(S): Antoniadis, Homer; Roitman, Daniel B.; Shiang, William R.; Woo, Edmund P.; Wu, Weishi

PATENT ASSIGNEE(S): Hewlett-Packard Co., USA; Dow Chemical Co.

SOURCE: Eur. Pat. Appl., 19 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

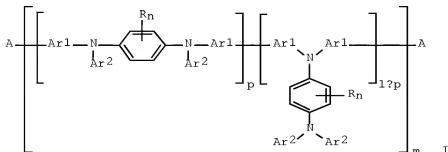
LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 827366	A2	19980304	EP 1997-114846	19970827
EP 827366	A3	19980819		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
US 5948552	A	19990907	US 1996-704476	19960827
JP 10092582	A	19980410	JP 1997-244868	19970827
PRIORITY APPLN. INFO.:			US 1996-704476	A 19960827
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT				
OTHER SOURCE(S):			MARPAT 128:223710	

GI



AB Organic electroluminescent devices comprising a substrate, a transparent first conductive layer next to the substrate, an electron-transporting and light-emitting layer, a hole-transporting layer sandwiched between the first conductive layer and the electron-transporting and light-emitting layer, and a second conductive layer next to the electron-transporting and light-emitting layer and remote from the hole-transporting layer are described in which the hole-transporting layer comprises a poly(arylamine) described by the general formula I (R = independently selected C1-24 hydrocarbyl, hydrocarboxyl, hydrothiocarboxy, hydroarylcarboxy, or hydrothioarylcarboxy groups; Ar1 and Ar2 = independently selected C6-18 aryl groups optionally substituted with ≥ 1 C1-24 hydrocarbyl, hydrocarboxyl, hydrothiocarboxy, hydroarylcarboxy, or hydrothioarylcarboxy groups; A = independently selected groups selected from H and halogens; p = 0-1; n = 0-4; and m = 5-1000).

IT 113703-67-6P 202873-05-6P
 RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
 (heat-resistant organic electroluminescent devices with polyarylamine hole-transporting layers)

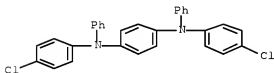
RN 113703-67-6 CAPLUS

CN 1,4-Benzenediamine, N,N'-bis(4-chlorophenyl)-N,N'-diphenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 113703-66-5

CMF C30 H22 Cl2 N2



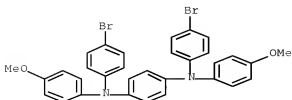
RN 202873-05-0 CAPLUS

CN 1,4-Benzenediamine, N,N'-bis(4-bromophenyl)-N,N'-bis(4-methoxyphenyl)-, homopolymer (9CI) (CA INDEX NAME)

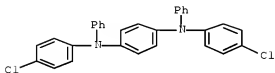
CM 1

CRN 202873-04-9

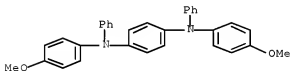
CMF C32 H26 Br2 N2 O2



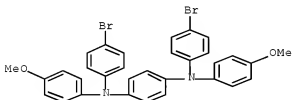
IT 113703-66-5P 124526-50-7P 202873-04-9P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (heat-resistant organic electroluminescent devices with
 polyarylamine hole-transporting layers)
 RN 113703-66-5 CAPLUS
 CN 1,4-Benzenediamine, N1,N4-bis(4-chlorophenyl)-N1,N4-diphenyl- (CA INDEX
 NAME)



RN 124526-50-7 CAPLUS
 CN 1,4-Benzenediamine, N1,N4-bis(4-methoxyphenyl)-N1,N4-diphenyl- (CA INDEX
 NAME)



RN 202873-04-9 CAPLUS
 CN 1,4-Benzenediamine, N1,N4-bis(4-bromophenyl)-N1,N4-bis(4-methoxyphenyl)-
 (CA INDEX NAME)



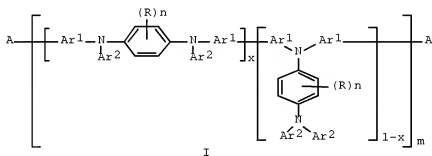
OS.CITING REF COUNT: 19 THERE ARE 19 CAPLUS RECORDS THAT CITE THIS
 RECORD (19 CITINGS)

L4 ANSWER 421 OF 440 CAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 1998:126295 CAPLUS [Full-text](#)
 DOCUMENT NUMBER: 128:180801
 ORIGINAL REFERENCE NO.: 128:35685a,35688a

TITLE: Polyarylamines, their preparation, and films thereof
 INVENTOR(S): Wu, Weishi; Shiang, William R.; Woo, Edmund P.
 PATENT ASSIGNEE(S): Dow Chemical Company, USA
 SOURCE: PCT Int. Appl., 25 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9806773	A1	19980219	WO 1997-US12478	19970714
W: JP, KR				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
US 5728801	A	19980317	US 1996-696281	19960813
EP 918811	A1	19990602	EP 1997-939338	19970714
EP 918811	B1	20001227		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
AT 198338	T	20010115	AT 1997-939338	19970714
JP 2001503074	T	20010306	JP 1998-509717	19970714
JP 4172821	B2	20081029		
KR 2000029916	A	20000525	KR 1999-701113	19990210
JP 2008069367	A	20080327	JP 2007-279072	20071026
PRIORITY APPLN. INFO.:				
			US 1996-696281	A 19960813
			JP 1998-509717	A3 19970714
			WO 1997-US12478	W 19970714

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
 GI



AB A poly(arylamine) composition comprises one or more compds. of structure I (R = C1-24 hydrocarbyl, C1-24 hydrocarboxy, C1-24 hydrocarbylthiooxy, C1-24 hydrocarbylcarboxyl; Ar1, Ar2 = C6-18 aryl, C1-12 hydrocarbyl-, C1-12 hydrocarbyloxy-, C1-12 hydrocarbylthiooxy-, C1-12 hydrocarbylcarboxyl-substituted C6-18 aryl, A = H, halogen; x = 0, 1; n = 0-4; m = 5-1000). The monomers useful in the preparation of polyarylamines comprise two amino moieties wherein each amino moiety is bound to three aryl moieties wherein two halo moieties are optionally bound to the monomer. The invention further relates to films prepared from such polyarylamines, as well as electrophotog. devices and electroluminescent devices containing such films, such as

polymeric light-emitting diodes. The invention also relates to processes for the preparation of polyarylamines.

IT 113703-67-6P 202873-05-0P

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyarylamines, their preparation, and films thereof)

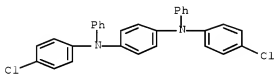
RN 113703-67-6 CAPLUS

CN 1,4-Benzenediamine, N,N'-bis(4-chlorophenyl)-N,N'-diphenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 113703-66-5

CMF C30 H22 C12 N2



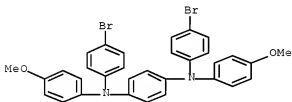
RN 202873-05-0 CAPLUS

CN 1,4-Benzenediamine, N,N'-bis(4-bromophenyl)-N,N'-bis(4-methoxyphenyl)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 202873-04-9

CMF C32 H26 Br2 N2 O2

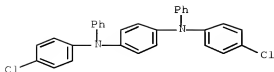


IT 113703-66-5P 124526-50-7P 202873-04-9P

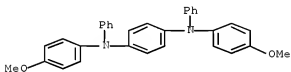
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(polyarylamines, their preparation, and films thereof)

RN 113703-66-5 CAPLUS

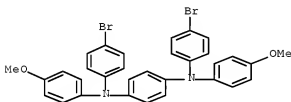
CN 1,4-Benzenediamine, N1,N4-bis(4-chlorophenyl)-N1,N4-diphenyl- (CA INDEX NAME)



RN 124526-50-7 CAPLUS
 CN 1,4-Benzenediamine, N1,N4-bis(4-methoxyphenyl)-N1,N4-diphenyl- (CA INDEX NAME)



RN 202873-04-9 CAPLUS
 CN 1,4-Benzenediamine, N1,N4-bis(4-bromophenyl)-N1,N4-bis(4-methoxyphenyl)- (CA INDEX NAME)



OS.CITING REF COUNT: 28 THERE ARE 28 CAPLUS RECORDS THAT CITE THIS RECORD (33 CITINGS)
 REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 422 OF 440 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1998:116628 CAPLUS [Full-text](#)

DOCUMENT NUMBER: 128:173587

ORIGINAL REFERENCE NO.: 128:34101a,34104a

TITLE: A novel class of π -electron dendrimers for thermally and morphologically stable amorphous molecular materials

AUTHOR(S): Katsuma, Katsuhiko; Shiota, Yasuhiko

CORPORATE SOURCE: Department Applied Chemistry, Faculty Engineering, Osaka University, Suita, 565, Japan

SOURCE: Advanced Materials (Weinheim, Germany) (1998), 10(3), 223-226

PUBLISHER: CODEN: ADVMEW; ISSN: 0935-9648

DOCUMENT TYPE: Wiley-VCH Verlag GmbH

Journal

LANGUAGE:

English

AB The novel organic hyperbranched π -electron systems, 1,3,5-tris[N-(4'-methylbiphenyl-4-yl)-N-(4-diphenylaminophenyl)amino]benzene (TDAB-G1(a)) and 1,3,5-tris[N-[4-bis(4-methylphenyl)aminophenyl]-N-(4-diphenylaminophenyl)amino]benzene (TDAB-G1(b)), were synthesized via the Ullmann reaction and characterized by ¹H-, ¹³C-NMR, electron absorption spectroscopy, and elemental anal. TDAB-G1(a) was obtained as a polycryst. material, whereas TDAB-G1(b) was an amorphous glass. DSC anal. of TDAB-G1(a) gave a m.p. of 187°. When the melted sample was cooled in air, a glass was formed spontaneously. Reheating of the glass sample resulted in a glass transition at T_g = 128° giving a supercooled liquid. Likewise, the amorphous repptd. sample of TDAB-G1(b) exhibited a glass transition at T_g = 134° when heated. Unique multiredox processes involving as many as 6- and 9-electron reversible oxidns. were observed in the cyclic voltammograms of TDAB-G1(a) and TDAB-G1(b), resp. TDAB-G1(b) was used as a hole-transport material in a multilayer organic LED consisting of the double-hole transport layer and an emitting layer which contained N,N'-diphenyl-N,N'-bis(3-methylphenyl)-[1,1'-biphenyl]-4,4'-diamine (TPD) doped with rubrene as the emitting material and with tris(8-quinolinolato) Al as the electron transport material. This device emitted yellow light and the electroluminescence showed a peak at 560 nm in agreement with the luminescence peak of rubrene.

IT 874946-05-1P

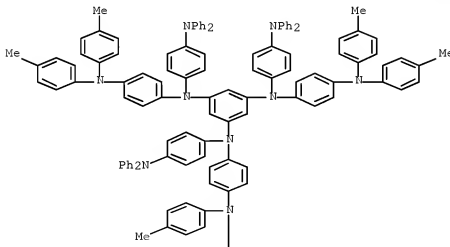
RL: SPN (Synthetic preparation); PRP (Properties); PREP (Preparation)

(A novel class of π -electron dendrimers for thermally and morphologically stable amorphous molecular materials)

RN 874946-05-1 CAPLUS

CN 1,3,5-Benzenetriamine, N1,N3,N5-tris[4-[bis(4-methylphenyl)amino]phenyl]-N1,N3,N5-tris[4-(diphenylamino)phenyl]- (CA INDEX NAME)

PAGE 1-A





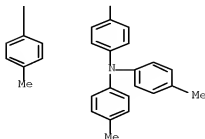
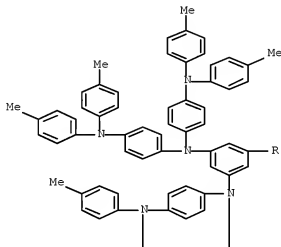
IT 202868-45-9P

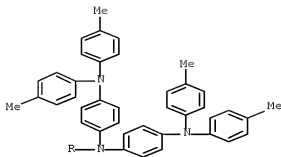
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); USES (Uses)

(preparation, glass transition, redox potential, and application in LED as hole transport material of)

RN 202868-45-9 CAPLUS

CN 1,3,5-Benzenetriamine, N1,N1,N3,N3,N5,N5-hexakis[4-(bis(4-methylphenyl)amino)phenyl]- (CA INDEX NAME)

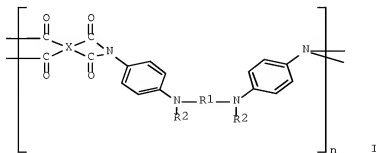




OS.CITING REF COUNT: 111 THERE ARE 111 CAPLUS RECORDS THAT CITE THIS RECORD (111 CITINGS)

L4 ANSWER 423 OF 440 CAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 1997:743868 CAPLUS [Full-text](#)
 DOCUMENT NUMBER: 128:68313
 ORIGINAL REFERENCE NO.: 128:13227a,13230a
 TITLE: Hole transport material and organic electroluminescent device
 INVENTOR(S): Uekawa, Masahiro; Nakaya, Tadao
 PATENT ASSIGNEE(S): Oki Electric Industry Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 09298089	A	19971118	JP 1996-111352	19960502
PRIORITY APPLN. INFO.: GI			JP 1996-111352	19960502



AB A hole transport material used in organic electroluminescent device is a polyimide represented by I [X = benzene ring-containing group; R1-2 = aromatic group]. The claimed hole transport material has excellent heat-resistant properties, thereby enhancing the device lifetime.

IT 200192-09-2P

RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(hole transport material and organic electroluminescent device)

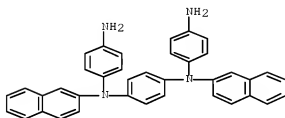
RN 200192-09-2 CAPLUS

CN [5,5'-Bisobenzofuran]-1,1',3,3'-tetrone, polymer with
N,N'-bis(4-aminophenyl)-N,N'-di-2-naphthalenyl-1,4-benzenediamine (9CI)
(CA INDEX NAME)

CM 1

CRN 200192-07-0

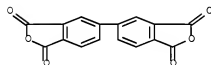
CMF C38 H30 N4



CM 2

CRN 2420-87-3

CMF C16 H6 O6

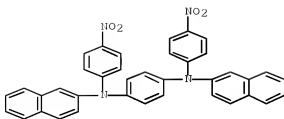


IT 200192-05-8P 200192-07-0P

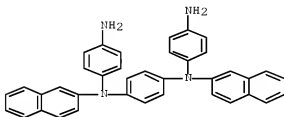
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(hole transport material and organic electroluminescent device)

RN 200192-05-8 CAPLUS

CN 1,4-Benzenediamine, N1,N4-di-2-naphthalenyl-N1,N4-bis(4-nitrophenyl)- (CA INDEX NAME)



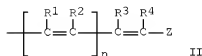
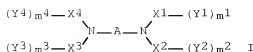
RN 200192-07-0 CAPLUS
 CN 1,4-Benzenediamine, N1,N4-bis(4-aminophenyl)-N1,N4-di-2-naphthalenyl- (CA
 INDEX NAME)



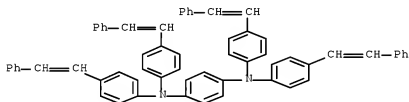
OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD
 (2 CITINGS)

L4 ANSWER 424 OF 440 CAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 1997:678708 CAPLUS [Full-text](#)
 DOCUMENT NUMBER: 128:17237
 ORIGINAL REFERENCE NO.: 128:3255a,3258a
 TITLE: Organic electroluminescent device elements
 INVENTOR(S): Enokida, Toshio; Tamano, Michiko
 PATENT ASSIGNEE(S): Toyo Ink Mfg. Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 33 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

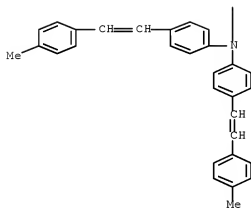
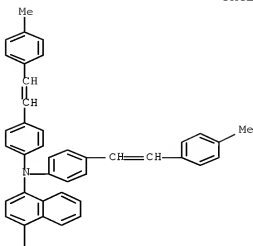
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 09268284	A	19971014	JP 1996-78501	19960401
JP 3564859	B2	20040915		
PRIORITY APPLN. INFO.: OTHER SOURCE(S): GI	MARPAT	128:17237	JP 1996-78501	19960401



- AB The elements comprise the phosphors I containing II; I [A, X1-4 = C2-20 arylene; m1, m2, m3, m4 = 0-2; Y1-4 = II] II [R1-4 = H, (un)substituted alkyl, (un)substituted aryl, CN; Z = (un)substituted aryl; n = 0, 1]; a tertiary amine derivative (B1,2N)G(NB3,4) formed between the phosphor and the anode [B1-4 = (un)substituted C6-20 aryl; G = (un)substituted arylene]; and a metal complex Q1,2GaL formed between the phosphor and the cathode [Q1,2 = (un)substituted hydrobenzoquinoline derivative; L = halo, (un)substituted (cyclo)alkyl, aryl cong. optional (un)substituted N, OR (R = L)].
- IT 198903-36-5 198903-38-7 198903-54-7
 RL: DEV (Device component use); USES (Uses)
 (organic electroluminescent device elements)
- RN 198903-36-5 CAPLUS
- CN 1,4-Benzenediamine, N1,N1,N4,N4-tetrakis[4-(2-phenylethenyl)phenyl]- (CA INDEX NAME)

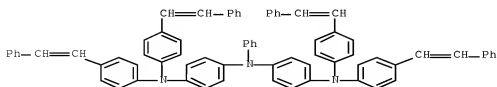


- RN 198903-38-7 CAPLUS
- CN 1,4-Naphthalenediamine, N1,N1,N4,N4-tetrakis[4-[2-(4-methylphenyl)ethenyl]phenyl]- (CA INDEX NAME)



RN 198903-54-7 CAPLUS

CN 1,4-Benzenediamine, N1-[4-[bis[4-(2-phenylethenyl)phenyl]amino]phenyl]-N1-phenyl-N4,N4-bis[4-(2-phenylethenyl)phenyl]- (CA INDEX NAME)



(5 CITINGS)

L4 ANSWER 425 OF 440 CAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 1997:618270 CAPLUS Full-text
 DOCUMENT NUMBER: 127:263592
 ORIGINAL REFERENCE NO.: 127:51481a,51484a
 TITLE: Crosslinkable or chain extendable polyarylpolyamines
 and films for electroluminescent devices
 INVENTOR(S): Woo, Edmund P.; Inbasekaran, Michael; Shiang, William
 R.; Roof, Gordon R.; Wu, Weishi
 PATENT ASSIGNEE(S): Dow Chemical Co., USA
 SOURCE: PCT Int. Appl., 57 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9733193	A2	19970912	WO 1997-US2643	19970220
WO 9733193	A3	20020926		
W:	AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, UZ, VN, YU			
RW:	KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG			
AU 9722776	A	19970922	AU 1997-22776	19970220
US 5929194	A	19990727	US 1997-967348	19971027
PRIORITY APPLN. INFO.:			US 1996-606180	A 19960223
			US 1996-696280	A 19960813
			WO 1997-US2643	W 19970220

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
 OTHER SOURCE(S): MARPAT 127:263592

AB The polyarylpolyamines are prepared by the reaction of ≥ 1 tertiary di- or polyarylamine having 2 halogen substituents with a haloarom. compound having a crosslinkable reactive group or trialkylsiloxy moiety. Films of the title compds., as well as films of polymers of their crosslinkable species, are efficient in the transport of pos. charges when exposed to relatively low voltage levels, and demonstrate solvent and heat resistance.

IT 113703-67-6P
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (crosslinkable or chain extendable polyarylpolyamines for solvent-resistant films for electroluminescent devices)

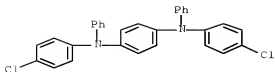
RN 113703-67-6 CAPLUS

CN 1,4-Benzenediamine, N,N'-bis(4-chlorophenyl)-N,N'-diphenyl-, homopolymer (9CI) (CA INDEX NAME)

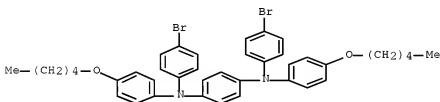
CM 1

CRN 113703-66-5

CMF C30 H22 C12 N2



IT 195730-42-8DF, reaction products with silyl-containing
benzeneboronic acid
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT
(Reactant or reagent)
(crosslinkable or chain extendable polyarylpolyamines for
solvent-resistant films for electroluminescent devices)
RN 195730-42-8 CAPLUS
CN 1,4-Benzenediamine, N1,N4-bis(4-bromophenyl)-N1,N4-bis[4-
(pentyloxy)phenyl]- (CA INDEX NAME)

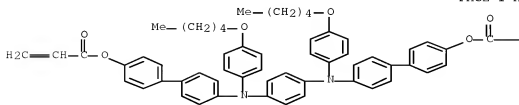


IT 195730-45-1P 195730-55-3P
RL: IMF (Industrial manufacture); PREP (Preparation)
(film; crosslinkable or chain extendable polyarylpolyamines for
solvent-resistant films for electroluminescent devices)
RN 195730-45-1 CAPLUS
CN 2-Propenoic acid, 2-ethyl-2-[[[1-oxo-2-propenyl]oxy]methyl]-1,3-
propanediyl ester, polymer with 1,4-phenylenebis[[[4-
(pentyloxy)phenyl]imino][1,1'-biphenyl]-4',4-diyl] di-2-propenoate (9CI)
(CA INDEX NAME)

CM 1

CRN 195730-44-0

CMF C58 H56 N2 O6



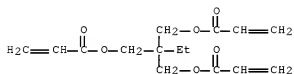
PAGE 1-A



CM 2

CRN 15625-89-5

CMF C15 H20 O6



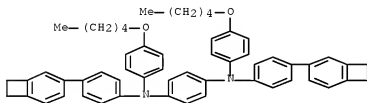
RN 195730-55-3 CAPLUS

CN 1,4-Benzenediamine, N,N'-bis(4-bicyclo[4.2.0]octa-1,3,5-trien-3-ylphenyl)-
N,N'-bis[4-(pentyloxy)phenyl]-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 195730-53-1

CMF C56 H56 N2 O2

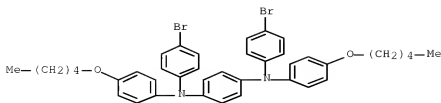


IT 195730-42-8P

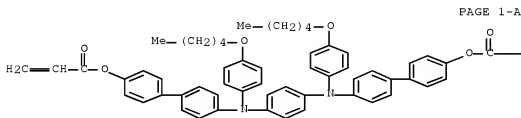
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT
(Reactant or reagent)(intermediate; crosslinkable or chain extendable polyarylpolyamines for
solvent-resistant films for electroluminescent devices)

RN 195730-42-8 CAPLUS

CN 1,4-Benzenediamine, N1,N4-bis(4-bromophenyl)-N1,N4-bis[4-
(pentyloxy)phenyl]- (CA INDEX NAME)



IT 195730-44-QP 195730-53-1P
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT
 (Reactant or reagent)
 (preparation and polymerization; crosslinkable or chain extendable
 polyarylpolyamines for solvent-resistant films for
 electroluminescent devices)
 RN 195730-44-0 CAPLUS
 CN 2-Propenoic acid, 1,4-phenylenebis[[[(4-pentyloxy)phenyl]imino][1,1'-
 biphenyl]-4',4-diyl] ester (9CI) (CA INDEX NAME)

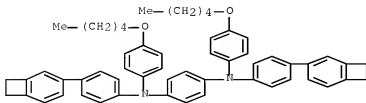


PAGE 1-A

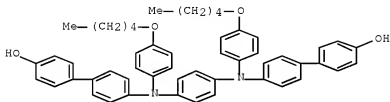
PAGE 1-B



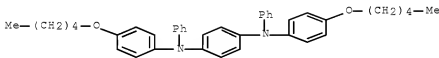
RN 195730-53-1 CAPLUS
 CN 1,4-Benzenediamine, N1,N4-bis(4-bicyclo[4.2.0]octa-1,3,5-trien-3-ylphenyl)-
 N1,N4-bis[4-(pentyloxy)phenyl]- (CA INDEX NAME)



IT 195730-43-9P
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT
 (Reactant or reagent)
 (reaction with acryloyl chloride; crosslinkable or chain extendable
 polyarylpolyamines for solvent-resistant films for
 electroluminescent devices)
 RN 195730-43-9 CAPLUS
 CN [1,1'-Biphenyl]-4-ol, 4',4'''-[1,4-phenylenebis[[4-
 (pentyloxy)phenyl]imino]]bis- (9CI) (CA INDEX NAME)



IT 195730-40-6P
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT
 (Reactant or reagent)
 (reaction with bromosuccinimide; crosslinkable or chain extendable
 polyarylpolyamines for solvent-resistant films for
 electroluminescent devices)
 RN 195730-40-6 CAPLUS
 CN 1,4-Benzenediamine, N1,N4-bis[4-(pentyloxy)phenyl]-N1,N4-diphenyl- (CA
 INDEX NAME)



OS.CITING REF COUNT: 27 THERE ARE 27 CAPLUS RECORDS THAT CITE THIS
 RECORD (31 CITINGS)
 REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 426 OF 440 CAPLUS COPYRIGHT 2010 ACS ON STN
 ACCESSION NUMBER: 1997:563439 CAPLUS [Full-text](#)
 DOCUMENT NUMBER: 127:191351
 ORIGINAL REFERENCE NO.: 127:37119a,37122a
 TITLE: Synthesis of polymers for hole and electron transport
 materials in organic electroluminescent
 devices
 AUTHOR(S): Son, Jhun Mo; Sakaki, Yuichi; Ogino, Kenji; Sato,
 Hisaya
 CORPORATE SOURCE: Faculty of Technology, Tokyo University of Agriculture
 and Technology, Tokyo, 184, Japan
 SOURCE: IEEE Transactions on Electron Devices (1997), 44(8),

1307-1314

CODEN: IETDAI; ISSN: 0018-9383

PUBLISHER: Institute of Electrical and Electronics Engineers

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Styrene-type polymers having tetraphenylbenzidine (TPD) or tetraphenylphenyldiaminobenzene unit (PDA) and a oxadiazole unit on the side chain were prepared as hole and electron transport materials, resp., of an electroluminescent device. The device structures employed were [ITO/hole transport layer/Al] (type I), or [ITO/hole transport layer/electron transport layer/Al] (type II). Type I devices provided c.d. higher than 100 mA/cm² but no luminescence was observed. Type II devices emitted luminescence of about 10 cd/m² at the c.d. of about 170 mA/cm². The emission maximum of these devices were 460 and 530 nm for the device using TPD and PDA, resp.

IT 194354-35-3P

RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(preparation of styrene derivative polymers for hole and electron transport materials in organic electroluminescent devices)

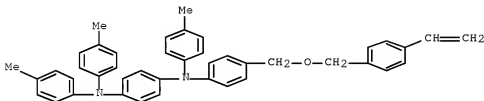
RN 194354-35-3 CAPLUS

CN 1,4-Benzenediamine, N-4-[[4-(4-ethenylphenyl)methoxy]methyl]phenyl]-N,N',N'-tris(4-methylphenyl)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 194354-34-2

CMF C43 H40 N2 O



OS.CITING REF COUNT: 20 THERE ARE 20 CAPLUS RECORDS THAT CITE THIS RECORD (20 CITINGS)

REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 427 OF 440 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1997:480901 CAPLUS Full-text

DOCUMENT NUMBER: 127:115061

ORIGINAL REFERENCE NO.: 127:22069a,22072a

TITLE: Hole-transporting material and use thereof

INVENTOR(S): Tamano, Michiko; Okutsu, Satoshi; Enokida, Toshio

PATENT ASSIGNEE(S): Toyo Ink Manufacturing Co., Ltd., Japan

SOURCE: Eur. Pat. Appl., 32 pp.

CODEN: EPXXDW

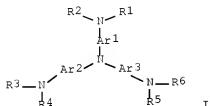
DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 779765	A2	19970618	EP 1996-309019	19961211
EP 779765	A3	19970730		
EP 779765	B1	20010801		
R: DE, FR, GB				
JP 09222741	A	19970826	JP 1996-306049	19961118
PRIORITY APPLN. INFO.:			JP 1995-321345	A 19951211
			JP 1996-306049	A 19961118
OTHER SOURCE(S):		MARPAT 127:115061		
GI				



AB Hole-transporting materials comprise triaryl amines described by the general formula I (R1-6 = (un)substituted aryl groups; and Ar1-3 = (un)substituted arylene groups, with the restriction that ≥1 of R1-6 = comprises fused aromatic rings or is an aryl group having a cycloalkyl ring). Organic electroluminescent devices and electrophotog. photoreceptors employing the materials are also described.

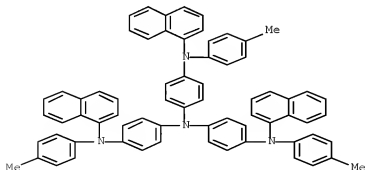
IT 192180-91-9 192180-92-0 192180-93-1
 192180-96-4 192180-97-5 192181-00-3
 192181-04-7 192181-17-2 192181-18-3

RL: DEV (Device component use); PRP (Properties); USES (Uses)

(aryl amine hole-transporting materials and apparatus using them)

RN 192180-91-9 CAPLUS

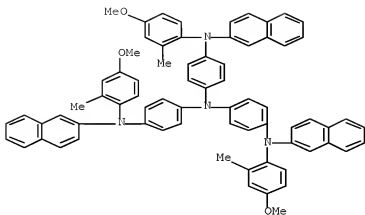
CN 1,4-Benzenediamine, N1-(4-methylphenyl)-N4,N4-bis[4-[(4-methylphenyl)-1-naphthalenylamino]phenyl]-N1-1-naphthalenyl- (CA INDEX NAME)



RN 192180-92-0 CAPLUS

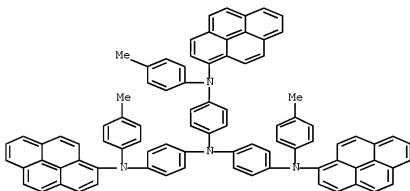
CN 1,4-Benzenediamine, N1-(4-methoxy-2-methylphenyl)-N4,N4-bis[4-[(4-methoxy-2-methylphenyl)-2-naphthalenylamino]phenyl]-N1-2-naphthalenyl- (CA INDEX NAME)

NAME)



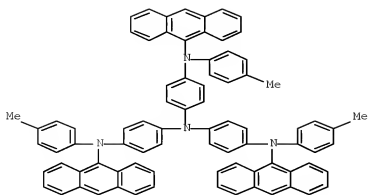
RN 192180-93-1 CAPLUS

CN 1,4-Benzenediamine, N1-(4-methylphenyl)-N4,N4-bis[4-[(4-methylphenyl)-1-pyrenylamino]phenyl]-N1-1-pyrenyl- (CA INDEX NAME)



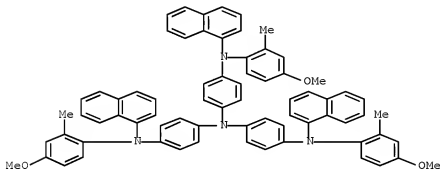
RN 192180-96-4 CAPLUS

CN 1,4-Benzenediamine, N1-9-anthracenyl-N4,N4-bis[4-[9-anthracenyl(4-methylphenyl)amino]phenyl]-N1-(4-methylphenyl)- (CA INDEX NAME)



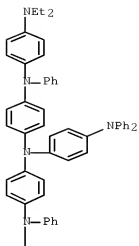
RN 192180-97-5 CAPLUS

CN 1,4-Benzenediamine, N1-(4-methoxy-2-methylphenyl)-N4,N4-bis[4-[(4-methoxy-2-methylphenyl)-1-naphthalenylamino]phenyl]-N1-1-naphthalenyl- (CA INDEX NAME)

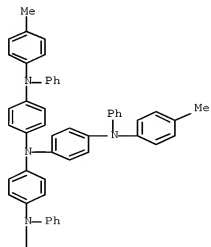


RN 192181-00-3 CAPLUS

CN 1,4-Benzenediamine, N1-[4-(diethylamino)phenyl]-N4-[4-(diphenylamino)phenyl]-N4-[4-(1-naphthalenylphenylamino)phenyl]-N1-phenyl- (CA INDEX NAME)

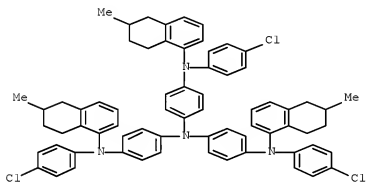


RN 192181-04-7 CAPLUS
 CN 1,4-Benzenediamine, N1,N1-bis[4-[(4-methylphenyl)phenylamino]phenyl]-N4-phenyl-N4-(5,6,7,8-tetrahydro-1-naphthalenyl)- (CA INDEX NAME)

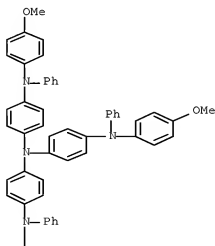




RN 192181-17-2 CAPLUS
 CN 1,4-Benzenediamine, N1-(4-chlorophenyl)-N4,N4-bis[4-[(4-chlorophenyl)(5,6,7,8-tetrahydro-6-methyl-1-naphthalenyl)amino]phenyl]-N1-(5,6,7,8-tetrahydro-6-methyl-1-naphthalenyl)- (CA INDEX NAME)



RN 192181-18-3 CAPLUS
 CN 1,4-Benzenediamine, N1,N1-bis[4-[(4-methoxyphenyl)phenylamino]phenyl]-N4-phenyl-N4-(5,6,7,8-tetrahydro-1-naphthalenyl)- (CA INDEX NAME)

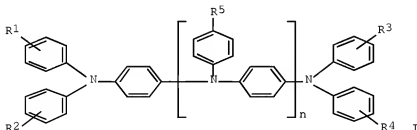




L4 ANSWER 428 OF 440 CAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 1997:469997 CAPLUS Full-text
 DOCUMENT NUMBER: 127:101553
 ORIGINAL REFERENCE NO.: 127:19443a,19446a
 TITLE: Organic thin film electroluminescent device elements
 INVENTOR(S): Ito, Yuichi; Ogino, Kenji; Sato, Hisaya
 PATENT ASSIGNEE(S): Toppan Printing Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 09151371	A	19970610	JP 1995-312576	19951130
PRIORITY APPLN. INFO.:			JP 1995-312576	19951130

GI

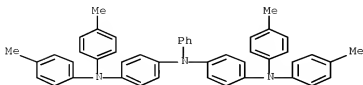


AB The elements comprise a transparent substrate; an ITO electrode; a hole-injection layer containing I (R1-5 = H, Me, methoxy, Ph, trifluoromethyl, OH, hydroxymethyl, formyl, NH2, double bonded group, epoxy ring; n = 1, 2); an Alq3 phosphor; a MgAg electrode; a GeO sealant; and a glass/resin encapsulation.
 IT 191795-04-7 191795-08-1
 RL: DEV (Device component use); USES (Uses)

(organic thin film electroluminescent device elements)

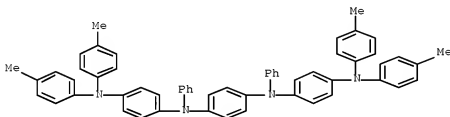
RN 191795-04-7 CAPLUS

CN 1,4-Benzenediamine, N1-[4-[bis(4-methylphenyl)amino]phenyl]-N4,N4-bis(4-methylphenyl)-N1-phenyl- (CA INDEX NAME)



RN 191795-08-1 CAPLUS

CN 1,4-Benzenediamine, N1,N4-bis[4-[bis(4-methylphenyl)amino]phenyl]-N1,N4-diphenyl- (CA INDEX NAME)



OS.CITING REF COUNT: 4 THERE ARE 4 CAPLUS RECORDS THAT CITE THIS RECORD
(4 CITINGS)

L4 ANSWER 429 OF 440 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1996:746286 CAPLUS Full-text

DOCUMENT NUMBER: 126:39392

ORIGINAL REFERENCE NO.: 126:7705a,7708a

TITLE: Organic thin-film electroluminescent device

INVENTOR(S): Ito, Juichi; Sato, Hisaya; Hayashi, Takako

PATENT ASSIGNEE(S): Toppan Printing Co Ltd, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 08259935	A	19961008	JP 1995-65611	19950324
JP 3646339	B2	20050511		
PRIORITY APPLN. INFO.:			JP 1995-65611	19950324
GI				

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB An organic thin-film electroluminescent device, suited for use in optical displays, comprises a multilayer structure including an organic light-emitting layer and a hole injection/transport layer containing a compound represented by I (G1 = CH or N; G2, G3 = H, C1-4 alkyl, alkoxy, dialkylamino, Q1, Q2, Q3, Q4, a group containing ≥ 1 benzene, naphthalene, anthracene, and perylene rings, benzene or naphthalene rings condensed with the Ph group in I; R = H, C1-4 alkyl, alkoxy, and dialkylamino).

IT 184159-36-2

RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)

(organic thin-film electroluminescent device)

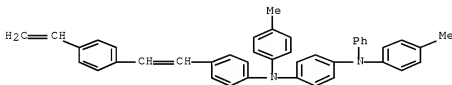
RN 184159-36-2 CAPLUS

CN 1,4-Benzenediamine, N-[4-[2-(4-ethenylphenyl)ethenyl]phenyl]-N,N'-bis(4-methylphenyl)-N'-phenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 184159-35-1

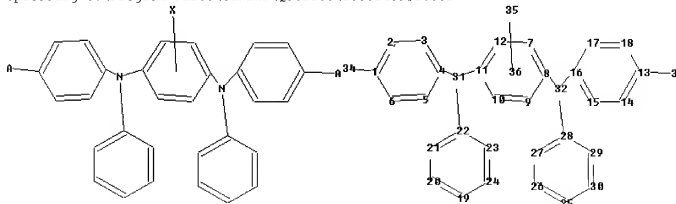
CMF C42 H36 N2



OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

=>

Uploading C:\Program Files\STNEXP\Queries\10582459#2.str



chain nodes :

31 32 33 34 35

ring nodes :

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23

24 25 26 27 28 29 30


```

chain bonds :
1-34  4-31  8-32  11-31  13-33  16-32  22-31  28-32
ring bonds :
1-2   1-6   2-3   3-4   4-5   5-6   7-8   7-12  8-9   9-10  10-11  11-12  13-14  13-18  14-
15
15-16  16-17  17-18  19-20  19-24  20-21  21-22  22-23  23-24  25-26  25-30  26-27
27-28  28-29
29-30
exact/norm bonds :
1-34  4-31  8-32  11-31  13-33  16-32  22-31  28-32
normalized bonds :
1-2   1-6   2-3   3-4   4-5   5-6   7-8   7-12  8-9   9-10  10-11  11-12  13-14  13-18  14-
15
15-16  16-17  17-18  19-20  19-24  20-21  21-22  22-23  23-24  25-26  25-30  26-27
27-28  28-29
29-30

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Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom
11:Atom 12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 17:Atom 18:Atom 19:Atom
20:Atom 21:Atom
22:Atom 23:Atom 24:Atom 25:Atom 26:Atom 27:Atom 28:Atom 29:Atom 30:Atom
31:CLASS 32:CLASS
33:CLASS 34:CLASS 35:CLASS 36:Atom

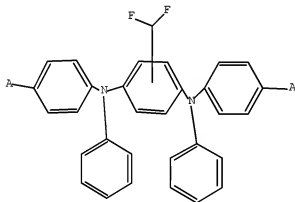
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L1 STRUCTURE UPLOADED

=> d l1

L1 HAS NO ANSWERS

L1 STR



Structure attributes must be viewed using STN Express query preparation.

=> s l1

SAMPLE SEARCH INITIATED 19:12:52 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED - 80 TO ITERATE

100.0% PROCESSED 80 ITERATIONS 0 ANSWERS
 SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
 BATCH **COMPLETE**
 PROJECTED ITERATIONS: 1064 TO 2136
 PROJECTED ANSWERS: 0 TO 0

L2 0 SEA SSS SAM L1

=> s l1 full
 FULL SEARCH INITIATED 19:13:02 FILE 'REGISTRY'
 FULL SCREEN SEARCH COMPLETED - 1629 TO ITERATE

100.0% PROCESSED 1629 ITERATIONS 5 ANSWERS
 SEARCH TIME: 00.00.01

L3 5 SEA SSS FUL L1

This file contains CAS Registry Numbers for easy and accurate
 substance identification.

=> s l3

L4 3 L3

=> d ibib abs hitstr 1-3

L4 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 2005:540610 CAPLUS Full-text
 DOCUMENT NUMBER: 143:78969
 TITLE: Nitrogen-containing oligomers and polymers for optical
 applications
 PATENT ASSIGNEE(S): Covion Organic Semiconductors G.m.b.H., Germany
 SOURCE: PCT Int. Appl., 33 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005056638	A1	20050623	WO 2004-EP14152	20041213
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GO, GW, ML, MR, NE, SN, TD, TG				
EP 1694744	A1	20060830	EP 2004-803789	20041213
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK, IS				
CN 1906229	A	20070131	CN 2004-80040408	20041213
CN 100558791	C	20091111		
JP 2007518842	T	20070712	JP 2006-543506	20041213

KR 2007012324	A	20070125	KR 2006-711672	20060613
US 20080217605	A1	20080911	US 2007-582459	20070516
PRIORITY APPLN. INFO.:			EP 2003-28789	A 20031213
			WO 2004-EP14152	W 20041213

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

OTHER SOURCE(S): MARPAT 143:78969

AB An optionally substituted oligomer or polymer comprises Ar1A(Ar3)[Ar2A(Ar3)]nAr1; wherein each A is a nitrogen atom or optionally substituted phosphorus atom; each Ar1 and Ar3 is the same or different and independently represents an optionally substituted aryl or heteroaryl; n is at least 1; Ar2 represents an optionally substituted aryl or heteroaryl comprising a linking ring to which the two nitrogen atoms are both directly linked; and at least one of Ar2 and either or both of Ar1 is substituted with at least one substituent. The polymers are useful in optical applications.

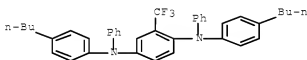
IT 854922-37-5P 854922-39-7P 854922-41-1P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(nitrogen-containing oligomers and polymers for optical applications)

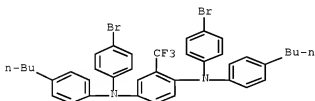
RN 854922-37-5 CAPLUS

CN 1,4-Benzenediamine, N1,N4-bis(4-butylphenyl)-N1,N4-diphenyl-2-(trifluoromethyl)- (CA INDEX NAME)



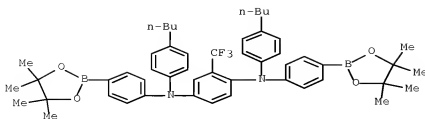
RN 854922-39-7 CAPLUS

CN 1,4-Benzenediamine, N1,N4-bis(4-bromophenyl)-N1,N4-bis(4-butylphenyl)-2-(trifluoromethyl)- (CA INDEX NAME)



RN 854922-41-1 CAPLUS

CN 1,4-Benzenediamine, N1,N4-bis(4-butylphenyl)-N1,N4-bis[4-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)phenyl]-2-(trifluoromethyl)- (CA INDEX NAME)



OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD
(2 CITINGS)
REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2005:35085 CAPLUS Full-text

DOCUMENT NUMBER: 142:102910

TITLE: Organic electroluminescent device, illuminating device, and display

INVENTOR(S): Oshiyama, Tomohiro; Kita, Hiroshi; Katoh, Eisaku

PATENT ASSIGNEE(S): Konica Minolta Holding, Inc., Japan

SOURCE: PCT Int. Appl., 80 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005004549	A1	20050113	WO 2004-JP9391	20040625
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
EP 1651013	A1	20060426	EP 2004-746860	20040625
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR			
CN 1817066	A	20060809	CN 2004-80019019	20040625
CN 100556224	C	20091028		
US 20070099025	A1	20070503	US 2005-562652	20051227
US 7371469	B2	20080513		
US 20080233431	A1	20080925	US 2008-82251	20080410
PRIORITY APPLN. INFO.:			JP 2003-193519	A 20030708
			WO 2004-JP9391	W 20040625
			US 2005-562652	A3 20051227

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB An organic electroluminescent device comprising at least a light-emitting layer containing a phosphorescent compound between an anode and a cathode is

characterized by comprising an adjoining layer so arranged between the light-emitting layer and the cathode as to be adjacent to the light-emitting layer and containing a compound with an electron-withdrawing group having an HOMO at -5.7 eV to -7.0 eV and an LUMO at -1.3 eV to -2.3 eV.

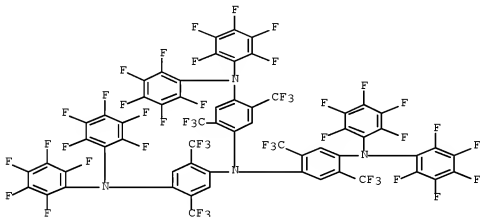
IT 817638-42-9

RL: DEV (Device component use); USES (Uses)

(organic electroluminescent device, illumination apparatus and display)

RN 817638-42-9 CAPLUS

CN 1,4-Benzenediamine, N1,N1-bis[4-[bis(2,3,4,5,6-pentafluorophenyl)amino]-2,5-bis(trifluoromethyl)phenyl]-N4,N4-bis(2,3,4,5,6-pentafluorophenyl)-2,5-bis(trifluoromethyl)- (CA INDEX NAME)



OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)
 REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 2004:118662 CAPLUS Full-text
 DOCUMENT NUMBER: 140:172301

TITLE: Organic electroluminescent elements with improved brightness and durability and color displays using them

INVENTOR(S): Ueda, Noriko; Yamada, Taketoshi; Kita, Hiroshi
 PATENT ASSIGNEE(S): Konica Minolta Holdings Inc., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 57 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent
 LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004047443	A	20040212	JP 2003-134267	20030513
PRIORITY APPLN. INFO.:			JP 2002-140103	A 20020515
OTHER SOURCE(S):	MARPAT 140:172301			

AB The elements contain , R1R2R3N [R1-3 = substituted p-A-Ph; A = (un)substituted aromatic hydrocarbyl], preferably in hole-transport layers. The elements may have light-emitting layers containing phosphorescent complexes of Group VIII

metals (Os, Ir, or Pt, preferably) and ≥ 1 fluorescent compds. having maximum fluorescence wavelength longer than maximum emission wavelength of the complexes.

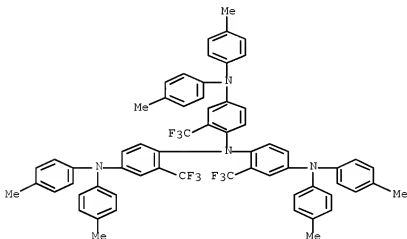
IT 655240-61-2

RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)

(light-emitting layer; organic EL elements containing triphenylamine-based compds. with improved brightness and durability for displays)

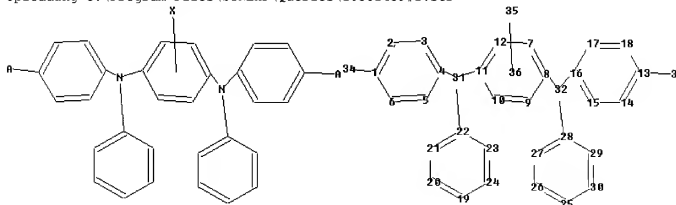
RN 655240-61-2 CAPLUS

CN 1,4-Benzenediamine, N1,N1-bis[4-[bis(4-methylphenyl)amino]-2-(trifluoromethyl)phenyl]-N4,N4-bis(4-methylphenyl)-2-(trifluoromethyl)-
(CA INDEX NAME)



=>

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chain nodes :

31 32 33 34 35

ring nodes :

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23

24 25 26 27 28 29 30

chain bonds :

1-34 4-31 8-32 11-31 13-33 16-32 22-31 28-32

ring bonds :

1-2 1-6 2-3 3-4 4-5 5-6 7-8 7-12 8-9 9-10 10-11 11-12 13-14 13-18 14-15
 15-16 16-17 17-18 19-20 19-24 20-21 21-22 22-23 23-24 25-26 25-30 26-27
 27-28 28-29
 29-30
 exact/norm bonds :
 1-34 4-31 8-32 11-31 13-33 16-32 22-31 28-32
 normalized bonds :
 1-2 1-6 2-3 3-4 4-5 5-6 7-8 7-12 8-9 9-10 10-11 11-12 13-14 13-18 14-15
 15-16 16-17 17-18 19-20 19-24 20-21 21-22 22-23 23-24 25-26 25-30 26-27
 27-28 28-29
 29-30

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom
 11:Atom 12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 17:Atom 18:Atom 19:Atom
 20:Atom 21:Atom
 22:Atom 23:Atom 24:Atom 25:Atom 26:Atom 27:Atom 28:Atom 29:Atom 30:Atom
 31:CLASS 32:CLASS
 33:CLASS 34:CLASS 35:CLASS 36:Atom

L5 STRUCTURE UPLOADED

=> s l5

SAMPLE SEARCH INITIATED 19:16:16 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED - 27 TO ITERATE

100.0% PROCESSED 27 ITERATIONS

0 ANSWERS

SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**

BATCH **COMPLETE**

PROJECTED ITERATIONS: 229 TO 851

PROJECTED ANSWERS: 0 TO 0

L6 0 SEA SSS SAM L5

=> s l5 full

FULL SEARCH INITIATED 19:16:24 FILE 'REGISTRY'

FULL SCREEN SEARCH COMPLETED - 497 TO ITERATE

100.0% PROCESSED 497 ITERATIONS

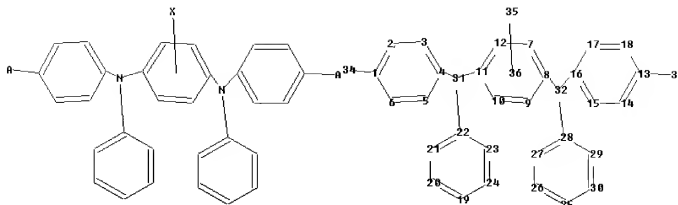
0 ANSWERS

SEARCH TIME: 00.00.01

L7 0 SEA SSS FUL L5

=>

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chain nodes :
31 32 33 34 35
ring nodes :
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
24 25 26 27 28 29 30
chain bonds :
1-34 4-31 8-32 11-31 13-33 16-32 22-31 28-32
ring bonds :
1-2 1-6 2-3 3-4 4-5 5-6 7-8 7-12 8-9 9-10 10-11 11-12 13-14 13-18 14-
15
15-16 16-17 17-18 19-20 19-24 20-21 21-22 22-23 23-24 25-26 25-30 26-27
27-28 28-29
29-30
exact/norm bonds :
1-34 4-31 8-32 11-31 13-33 16-32 22-31 28-32
normalized bonds :
1-2 1-6 2-3 3-4 4-5 5-6 7-8 7-12 8-9 9-10 10-11 11-12 13-14 13-18 14-
15
15-16 16-17 17-18 19-20 19-24 20-21 21-22 22-23 23-24 25-26 25-30 26-27
27-28 28-29
29-30

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Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom
11:Atom 12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 17:Atom 18:Atom 19:Atom
20:Atom 21:Atom
22:Atom 23:Atom 24:Atom 25:Atom 26:Atom 27:Atom 28:Atom 29:Atom 30:Atom
31:CLASS 32:CLASS
33:CLASS 34:CLASS 35:CLASS 36:Atom

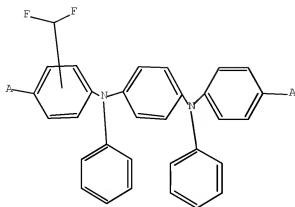
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L8 STRUCTURE UPLOADED

=> d 18

L8 HAS NO ANSWERS

L8 STR



Structure attributes must be viewed using STN Express query preparation.

=> s l8

SAMPLE SEARCH INITIATED 19:18:22 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED - 80 TO ITERATE

100.0% PROCESSED 80 ITERATIONS 0 ANSWERS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 1064 TO 2136
PROJECTED ANSWERS: 0 TO 0

L9 0 SEA SSS SAM L8

=> s l8 full

FULL SEARCH INITIATED 19:18:28 FILE 'REGISTRY'

FULL SCREEN SEARCH COMPLETED - 1629 TO ITERATE

100.0% PROCESSED 1629 ITERATIONS 2 ANSWERS
SEARCH TIME: 00.00.01

L10 2 SEA SSS FUL L8

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s l10

L11 2 L10

=> d ibib abs hitstr 1-2

L11 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2005:35085 CAPLUS Full-text
DOCUMENT NUMBER: 142:102910
TITLE: Organic electroluminescent device, illuminating device, and display
INVENTOR(S): Oshiyama, Tomohiro; Kita, Hiroshi; Katoh, Eisaku

PATENT ASSIGNEE(S): Konica Minolta Holding, Inc., Japan
 SOURCE: PCT Int. Appl., 80 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005004549	A1	20050113	WO 2004-JP9391	20040625
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
EP 1651013	A1	20060426	EP 2004-746860	20040625
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR			
CN 1817066	A	20060809	CN 2004-80019019	20040625
CN 100556224	C	20091028		
US 20070099025	A1	20070503	US 2005-562652	20051227
US 7371469	B2	20080513		
US 20080233431	A1	20080925	US 2008-82251	20080410
PRIORITY APPLN. INFO.:			JP 2003-193519	A 20030708
			WO 2004-JP9391	W 20040625
			US 2005-562652	A3 20051227

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

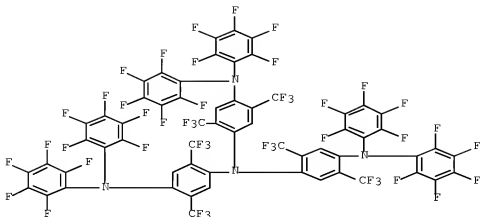
AB An organic electroluminescent device comprising at least a light-emitting layer containing a phosphorescent compound between an anode and a cathode is characterized by comprising an adjoining layer so arranged between the light-emitting layer and the cathode as to be adjacent to the light-emitting layer and containing a compound with an electron-withdrawing group having an HOMO at -5.7 eV to -7.0 eV and an LUMO at -1.3 eV to -2.3 eV.

IT 817638-42-9

RL: DEV (Device component use); USES (Uses)
 (organic electroluminescent device, illumination apparatus and display)

RN 817638-42-9 CAPLUS

CN 1,4-Benzenediamine, N1,N1-bis[4-(bis(2,3,4,5,6-pentafluorophenyl)amino)-2,5-bis(trifluoromethyl)phenyl]-N4,N4-bis(2,3,4,5,6-pentafluorophenyl)-2,5-bis(trifluoromethyl)- (CA INDEX NAME)



OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD
(1 CITINGS)
REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2004:118662 CAPLUS Full-text

DOCUMENT NUMBER: 140:172301

TITLE: Organic electroluminescent elements with improved
brightness and durability and color displays using
them

INVENTOR(S): Ueda, Noriko; Yamada, Taketoshi; Kita, Hiroshi

PATENT ASSIGNEE(S): Konica Minolta Holdings Inc., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 57 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004047443	A	20040212	JP 2003-134267	20030513
PRIORITY APPLN. INFO.:			JP 2002-140103	A 20020515

OTHER SOURCE(S): MARPAT 140:172301

AB The elements contain , R1R2R3N [R1-3 = substituted p-A-Ph; A = (un)substituted aromatic hydrocarbyl], preferably in hole-transport layers. The elements may have light-emitting layers containing phosphorescent complexes of Group VIII metals (Os, Ir, or Pt, preferably) and ≥ 1 fluorescent compds. having maximum fluorescence wavelength longer than maximum emission wavelength of the complexes.

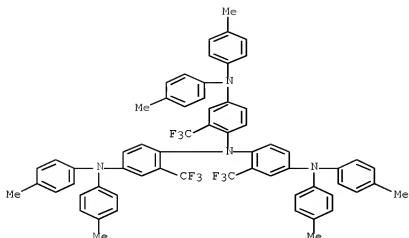
IT 655240-61-2

RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)

(light-emitting layer; organic EL elements containing triphenylamine-based compds. with improved brightness and durability for displays)

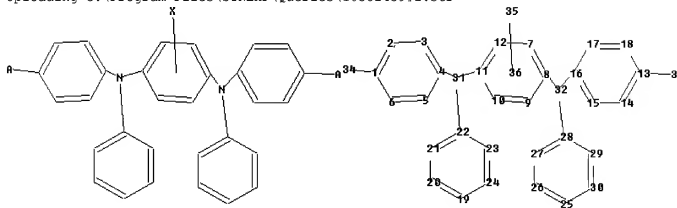
RN 655240-61-2 CAPLUS

CN 1,4-Benzenediamine, N1,N1-bis[4-[bis(4-methylphenyl)amino]-2-(trifluoromethyl)phenyl]-N4,N4-bis(4-methylphenyl)-2-(trifluoromethyl)-(CA INDEX NAME)



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chain nodes :

31 32 33 34 35

ring nodes :

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23

24 25 26 27 28 29 30

chain bonds :

1-34 4-31 8-32 11-31 13-33 16-32 22-31 28-32

ring bonds :

1-2 1-6 2-3 3-4 4-5 5-6 7-8 7-12 8-9 9-10 10-11 11-12 13-14 13-18 14-15

15-16 16-17 17-18 19-20 19-24 20-21 21-22 22-23 23-24 25-26 25-30 26-27

27-28 28-29

29-30

exact/norm bonds :

1-34 4-31 8-32 11-31 13-33 16-32 22-31 28-32

normalized bonds :

1-2 1-6 2-3 3-4 4-5 5-6 7-8 7-12 8-9 9-10 10-11 11-12 13-14 13-18 14-15

15-16 16-17 17-18 19-20 19-24 20-21 21-22 22-23 23-24 25-26 25-30 26-27

27-28 28-29

29-30

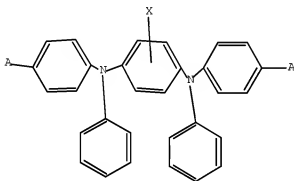
Match level :
 1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom
 11:Atom 12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 17:Atom 18:Atom 19:Atom
 20:Atom 21:Atom
 22:Atom 23:Atom 24:Atom 25:Atom 26:Atom 27:Atom 28:Atom 29:Atom 30:Atom
 31:CLASS 32:CLASS
 33:CLASS 34:CLASS 35:CLASS 36:Atom

L12 STRUCTURE UPLOADED

=> d l12

L12 HAS NO ANSWERS

L12 STR



Structure attributes must be viewed using STN Express query preparation.

=> s l12

SAMPLE SEARCH INITIATED 19:25:16 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED - 510 TO ITERATE

100.0% PROCESSED 510 ITERATIONS

0 ANSWERS

SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**

BATCH **COMPLETE**

PROJECTED ITERATIONS: 8846 TO 11554

PROJECTED ANSWERS: 0 TO 0

L13 0 SEA SSS SAM L12

=> s l12 full

FULL SEARCH INITIATED 19:25:22 FILE 'REGISTRY'

FULL SCREEN SEARCH COMPLETED - 9982 TO ITERATE

100.0% PROCESSED 9982 ITERATIONS

23 ANSWERS

SEARCH TIME: 00.00.01

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s l14

L15 9 L14

=> d ibib abs hitstr 1-9

L15 ANSWER 1 OF 9 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2005:540610 CAPLUS Full-text

DOCUMENT NUMBER: 143:78969

TITLE: Nitrogen-containing oligomers and polymers for optical applications

PATENT ASSIGNEE(S): Covion Organic Semiconductors G.m.b.H., Germany

SOURCE: PCT Int. Appl., 33 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005056638	A1	20050623	WO 2004-EP14152	20041213
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1694744	A1	20060830	EP 2004-803789	20041213
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK, IS				
CN 1906229	A	20070131	CN 2004-80040408	20041213
CN 100558791	C	20091111		
JP 2007518842	T	20070712	JP 2006-543506	20041213
KR 2007012324	A	20070125	KR 2006-711672	20060613
US 20080217605	A1	20080911	US 2007-582459	20070516
PRIORITY APPLN. INFO.:			EP 2003-28789	A 20031213
			WO 2004-EP14152	W 20041213

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

OTHER SOURCE(S): MARPAT 143:78969

AB An optionally substituted oligomer or polymer comprises Ar1A(Ar3)[Ar2A(Ar3)]nAr1; wherein each A is a nitrogen atom or optionally substituted phosphorus atom; each Ar1 and Ar3 is the same or different and independently represents an optionally substituted aryl or heteroaryl; n is at least 1; Ar2 represents an optionally substituted aryl or heteroaryl comprising a linking ring to which the two nitrogen atoms are both directly linked; and at least one of Ar2 and either or both of Ar1 is substituted with at least one substituent. The polymers are useful in optical applications.

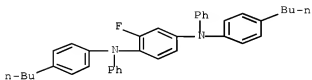
IT 854922-33-1F 854922-35-3F 854922-42-2F
854922-44-4F

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(nitrogen-containing oligomers and polymers for optical applications)

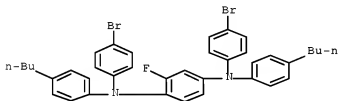
RN 854922-33-1 CAPLUS

CN 1,4-Benzenediamine, N1,N4-bis(4-butylphenyl)-2-fluoro-N1,N4-diphenyl- (CA INDEX NAME)



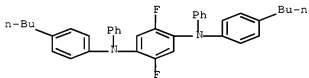
RN 854922-35-3 CAPLUS

CN 1,4-Benzenediamine, N1,N4-bis(4-bromophenyl)-N1,N4-bis(4-butylphenyl)-2-fluoro- (CA INDEX NAME)



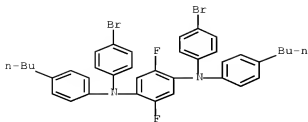
RN 854922-42-2 CAPLUS

CN 1,4-Benzenediamine, N1,N4-bis(4-butylphenyl)-2,5-difluoro-N1,N4-diphenyl- (CA INDEX NAME)

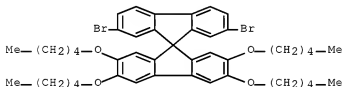


RN 854922-44-4 CAPLUS

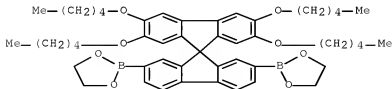
CN 1,4-Benzenediamine, N1,N4-bis(4-bromophenyl)-N1,N4-bis(4-butylphenyl)-2,5-difluoro- (CA INDEX NAME)



IT 854922-59-1P 854922-61-5P
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (nitrogen-containing oligomers and polymers for optical applications)
 RN 854922-59-1 CAPLUS
 CN 1,4-Benzenediamine, N,N'-bis(4-bromophenyl)-N,N'-bis(4-butylphenyl)-2-fluoro-, polymer with N,N-bis(4-bromophenyl)-4-(1-methylpropyl)benzenamine, 2',7'-dibromo-2,3,6,7-tetrakis(pentyloxy)-9,9'-spiro[9H-fluorene] and 2,2'-[2',3',6',7'-tetrakis(pentyloxy)-9,9'-spiro[9H-fluorene]-2,7-diyl]bis[1,3,2-dioxaborolane] (9CI) (CA INDEX NAME)
 CM 1
 CRN 854922-57-9
 CMF C45 H54 Br2 O4

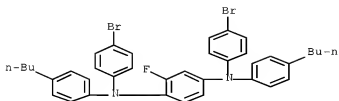


CM 2
 CRN 854922-56-8
 CMF C49 H62 B2 O8



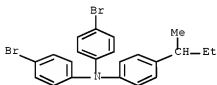
CM 3

CRN 854922-35-3
CMF C38 H37 Br2 F N2



CM 4

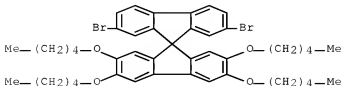
CRN 287976-94-7
CMF C22 H21 Br2 N



RN 854922-61-5 CAPLUS
CN 1,4-Benzenediamine, N,N'-bis(4-bromophenyl)-N,N'-bis(4-butylphenyl)-2-fluoro-, polymer with 2',7'-dibromo-2,3,6,7-tetrakis(pentyloxy)-9,9'-spirobi[9H-fluorene] and 2,2'-[2',3',6',7'-tetrakis(pentyloxy)-9,9'-spirobi[9H-fluorene]-2,7-diyl]bis[1,3,2-dioxaborolane] (9CI) (CA INDEX NAME)

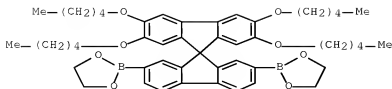
CM 1

CRN 854922-57-9
CMF C45 H54 Br2 O4



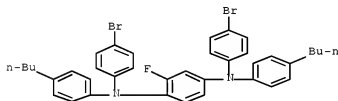
CM 2

CRN 854922-56-8
CMF C49 H62 B2 O8



CM 3

CRN 854922-35-3
CMF C38 H37 Br2 F N2



OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD
(2 CITINGS)
REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L15 ANSWER 2 OF 9 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2003:868360 CAPLUS Full-text

DOCUMENT NUMBER: 139:371610

TITLE: Organic electroluminescent materials and devices
having high luminescent efficiency and color purity
INVENTOR(S): Funabashi, Masakazu; Iwakuma, Toshihiro; Hosokawa,
Chishio

PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003313547	A	20031106	JP 2002-116935	20020419
PRIORITY APPLN. INFO.:			JP 2002-116935	20020419
OTHER SOURCE(S):		MARPAT 139:371610		

AB The materials are Ar1(NAr4Ar6)n(NAr5Ar7)mNAr2Ar3 [n = 1-3; m = 0-2; Ar1-Ar3,
Ar6, Ar7 = 1,2-, 1,3-, or 1,4-(perfluoro)phenyl (structures given); ≥1 of Ar1-

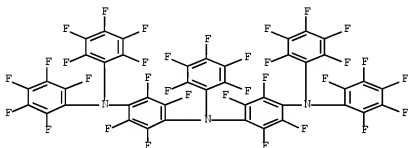
Ar3, Ar6, Ar7 = perfluorophenyl; Ar4, Ar5 = 1,2-, 1,3-, or 1,4-(perfluoro)phenylene (structures given); Ar4 and/or Ar5 = perfluorophenylene]. The devices, preferably blue-emitting, contain the materials as host materials in emitter layers and are useful as light sources for elec. apparatus

IT 620607-86-5P

RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (fluorophenylamines as host materials in emitter layers in organic electroluminescent devices)

RN 620607-86-5 CAPLUS

CN 1,4-Benzenediamine, N1-[4-[bis(2,3,4,5,6-pentafluorophenyl)amino]-2,3,5,6-tetrafluorophenyl]-2,3,5,6-tetrafluoro-N1,N4,N4-tris(2,3,4,5,6-pentafluorophenyl)- (CA INDEX NAME)



OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD (2 CITINGS)

L15 ANSWER 3 OF 9 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2001:482850 CAPLUS Full-text

DOCUMENT NUMBER: 135:256871

TITLE: Nucleophilic reactivity. Kinetics of reactions between diarylamine N-anions and hexafluorobenzene or pentafluoropyridine in dimethyl sulfoxide

AUTHOR(S): Os'kina, I. A.; Vlasov, V. M.

CORPORATE SOURCE: Vorozhtsov Novosibirsk Institute of Organic Chemistry, Siberian Division, Russian Academy of Sciences, Novosibirsk, 630090, Russia

SOURCE: Russian Journal of Organic Chemistry (Translation of Zhurnal Organicheskoi Khimii) (2001), 37(2), 260-269 CODEN: RJOCEQ; ISSN: 1070-4280

PUBLISHER: MAIK Nauka/Interperiodica Publishing

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 135:256871

AB Rate consts. of reactions between sodium salts of diarylamines and hexafluorobenzene and pentafluoropyridine in DMSO at 25°C were determined. The Bronsted factors for substrates under consideration are 0.14 and 0.34 resp. These data evidence a considerable effect of substrate electrophilicity on the reactivity of diarylamine N-anions in the SNAr reactions. Deviations of the Bronsted plot from linearity for the reactions of hexafluorobenzene with aryl- and diarylamine N-anions may be due to the difference in internal barriers of these reactions.

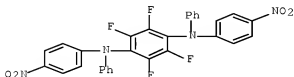
IT 361433-15-0P

RL: SPN (Synthetic preparation); PREP (Preparation)

(kinetics of reactions between diarylamine N-anions and
hexafluorobenzene or pentafluoropyridine in DMSO)

RN 361433-15-0 CAPLUS

CN 1,4-Benzenediamine, 2,3,5,6-tetrafluoro-N1,N4-bis(4-nitrophenyl)-N1,N4-diphenyl- (CA INDEX NAME)



OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD
(2 CITINGS)
REFERENCE COUNT: 49 THERE ARE 49 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L15 ANSWER 4 OF 9 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1998:651124 CAPLUS Full-text

DOCUMENT NUMBER: 129:308409

ORIGINAL REFERENCE NO.: 129:62808a,62809a

TITLE: Positive-hole injection material for organic
electroluminescent device

INVENTOR(S): Enokida, Toshio; Onikubo, Shunichi; Tamano, Michiko;
Okutsu, Satoshi

PATENT ASSIGNEE(S): Toyo Ink Mfg. Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 43 pp.

CODEN: JKXXAF

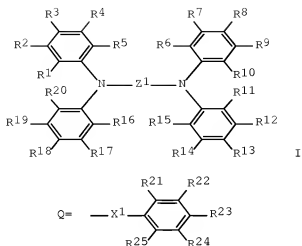
DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 10265773	A	19981006	JP 1997-69911	19970324
PRIORITY APPLN. INFO.:			JP 1997-69911	19970324
OTHER SOURCE(S):		MARPAT 129:308409		
GI				

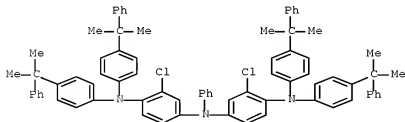


AB The material has a formula I [R1-20 = H, halo, alkyl, alkoxy, thioalkoxy, amino, monocyclic group, polycyclic group, Q; R21-25 = H, halo, alkyl, alkoxy, thioalkoxy, amino, monocyclic group, polycyclic group; R21-25 may form a cycloalkyl ring, aryl ring; X1 = direct bond, alkylene, (CR26R27)xO(CR28R29)y, (CR30R31)xS(CR32R33)y, O, S, CO, SO2, S1R34(R35), NR36, PR37, PO(R38); x, y = 0-8 integer; x = y ≠ 0; Z1 = Ar1, Ar2NR39Ar3, Ar4NR40Ar5NR41Ar6; Ar1-6 = arylene; R26-41 = alkyl, monocyclic group, polycyclic group]. The device shows high luminance, efficiency, long life, and storage stability.

IT 214338-54-2
 RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)
 (organic electroluminescent device containing aromatic pos.-hole injection material)

RN 214338-54-2 CAPLUS

CN 1,4-Benzenediamine, N4-[4-[bis[4-(1-methyl-1-phenylethyl)phenyl]amino]-3-chlorophenyl]-2-chloro-N1,N1-bis[4-(1-methyl-1-phenylethyl)phenyl]-N4-phenyl- (CA INDEX NAME)



OS.CITING REF COUNT: 8 THERE ARE 8 CAPLUS RECORDS THAT CITE THIS RECORD (8 CITINGS)

L15 ANSWER 5 OF 9 CAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 1989:644275 CAPLUS Full-text
 DOCUMENT NUMBER: 111:244275

ORIGINAL REFERENCE NO.: 111:40359a,40362a
 TITLE: Electrophotographic photoconductor containing pyrrolopyrrole
 INVENTOR(S): Hanatani, Yasuyuki; Nakatani, Kaname
 PATENT ASSIGNEE(S): Mita Industrial Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 23 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 01142657	A	19890605	JP 1987-301856	19871130

PRIORITY APPLN. INFO.: JP 1987-301856 19871130
 GI

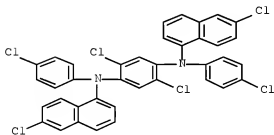
* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The title photoconductor, on an elec. conductive substrate, contains a a pyrrolopyrrole I [R1-2 = (substituted) aryl, aralkyl, heterocycle; R3-4 = H, alkyl, (substituted) aryl] and a diamine II [R5-9 = H, lower alkyl, lower alkoxy, halo; l = 1, 2; m, n, o, p = 1, 2, 3; q = 1, 2]. The photoconductor shows reduced residual elec. potential. Thus, on an Al sheet, a composition comprising 1,4-dithioketo-3,6-diphenylpyrrolo[3,4- c]pyrrole, S-Lec C, and THF was applied, dried, and coated with a PhH solution containing diamine III, and PCZ (bisphenol polycarbonates) to give the title photoconductor.

IT 123847-84-7 123865-10-1
 RL: USES (Uses)
 (charge-transporting layer containing, for electrophotog. photoconductor, pyrrolopyrrole in)

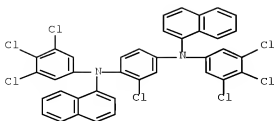
RN 123847-84-7 CAPLUS

CN 1,4-Benzenediamine, 2,5-dichloro-N1,N4-bis(6-chloro-1-naphthalenyl)-N1,N4-bis(4-chlorophenyl)- (CA INDEX NAME)



RN 123865-10-1 CAPLUS

CN 1,4-Benzenediamine, 2-chloro-N1,N4-di-1-naphthalenyl-N1,N4-bis(3,4,5-trichlorophenyl)- (CA INDEX NAME)



L15 ANSWER 6 OF 9 CAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 1987:205158 CAPLUS Full-text
 DOCUMENT NUMBER: 106:205158
 ORIGINAL REFERENCE NO.: 106:33113a,33116a
 TITLE: Electrophotographic photoreceptor containing
 charge-generating tetrakisazo compounds
 INVENTOR(S): Umehara, Masashige; Matsumoto, Masakazu; Takiguchi,
 Takao; Yamashita, Masataka; Ishikawa, Shozo
 PATENT ASSIGNEE(S): Canon K. K., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 41 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 6
 PATENT INFORMATION:

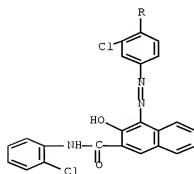
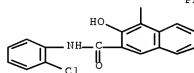
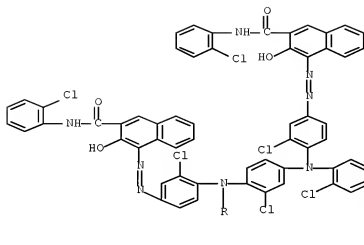
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 61240246	A	19861025	JP 1985-80248	19850417
JP 04002948	B	19920121		
US 4666810	A	19870519	US 1986-852243	19860415

PRIORITY APPLN. INFO.:

JP 1985-80248	A	19850417
JP 1985-157699	A	19850717
JP 1985-157700	A	19850717
JP 1985-159401	A	19850718
JP 1985-159402	A	19850718
JP 1985-159403	A	19850718

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB The tetrakisazo compound has the formula
 (AN:NZ2)(AN:NZ3)NZ1N(Z4N:NA)(Z5N:NA)(I; A = coupler residue with a phenolic OH
 group; Z1-Z5 = arylene). An electrophotog. composite photoconductor may be
 prepared by dispersing a tetrakisazo compound of the formula I (A = naphthol
 AS coupler residue; Z1-Z5 = 1, 4-phenylene) in a poly(vinyl butyral) binder to
 form a charge-generating layer and dispersing a hydrazone compound in a PMMA
 binder to give a charge-transport layer. The photoreceptor shows improved
 sensitivity and durability.
 IT 108305-34-6
 RL: USES (Uses)
 (electrophotog. photoreceptor containing charge-generating agent from, with
 improved sensitivity)
 RN 108305-34-6 CAPLUS
 CN 2-Naphthalenecarboxamide, 4,4',4'',4'''-[(2-chloro-1,4-
 phenylene)bis[nitrilobis[(3-chloro-4,1-phenylene)azo]]]tetrakis[N-(2-
 chlorophenyl)-3-hydroxy- (9CI) (CA INDEX NAME)



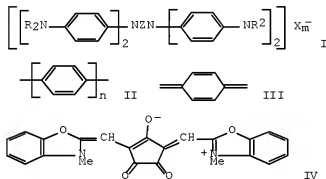
OS.CITING REF COUNT: 5 THERE ARE 5 CAPLUS RECORDS THAT CITE THIS RECORD (5 CITINGS)

L15 ANSWER 7 OF 9 CAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 1986:234361 CAPLUS Full-text
 DOCUMENT NUMBER: 104:234361
 ORIGINAL REFERENCE NO.: 104:37011a,37014a

TITLE: Optical information recording medium
 INVENTOR(S): Sato, Tsutomu; Umehara, Masaakira; Abe, Michiharu;
 Oba, Hideaki; Ueda, Yutaka
 PATENT ASSIGNEE(S): Ricoh Co., Ltd., Japan
 SOURCE: Brit. UK Pat. Appl., 18 pp.
 CODEN: BAXXDU
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
GB 2155811	A	19851002	GB 1985-3022	19850206
GB 2155811	B	19870121		
JP 06026028	B	19940406	JP 1984-18222	19840206
JP 60236131	A	19851122	JP 1984-91922	19840510
US 4656121	A	19870407	US 1985-698701	19850206
PRIORITY APPLN. INFO.:			JP 1984-18222	A 19840206
			JP 1984-91922	A 19840510

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
 GI



AB A laser optical recording material is comprised of a plastic substrate and an organic recording layer and, optionally, an underlayer and/or a protective layer in which ≥ 1 of the layers contains a compound of the formula I ($\text{R} = \text{H}$, lower alkyl; $\text{Z} = \text{II}$ where $n = 1, 2$, III; $\text{X} = \text{acid anion}$; $m = 0, 1, 2$ being 2 when $\text{Z} = \text{II}$; each of the aromatic rings in the compound may be substituted with ≥ 1 halogen, lower alkyl, lower alkoxy, or OH). A polymethine compound may also be contained in the recording layer as a coloring material. Thus, a 1,2-dichloroethane solution of a 1:1 mixture of I ($\text{R} = \text{Et}$; $\text{Z} = \text{phen-1,4-ylene}$; $\text{X-m} = \text{BF}_4^-$) and IV was spin-coated on a 1.2 mm poly(Me methacrylate) support to give a recording layer (700 Å thick). The resultant laser recording material required a writing power of 3.3 mW, had a reflectivity of 25.5%, and exhibited a C/N ratio of 52 dB vs. 3.5 mW, 20.9%, and 46 dB, resp., after light irradiation for 50 h.

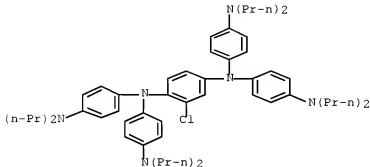
IT 102278-77-3 102278-79-5 102278-95-5
 102279-03-8
 RL: USES (Uses)

(laser optical recording layer containing polymethine coloring agent and)
 RN 102278-77-3 CAPLUS
 CN Arsenate(1-), hexafluoro-, hydrogen, compd. with
 2-chloro-N,N,N',N'-tetrakis[4-(dipropylamino)phenyl]-1,4-benzenediamine
 (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 102278-76-2

CMF C54 H75 Cl N6



CM 2

CRN 17068-85-8

CMF As F6 . H

CCI CCS

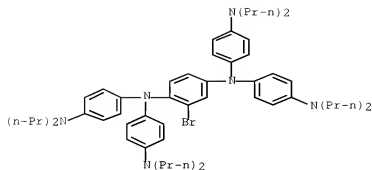


102278-79-5 CAPLUS
 CN Antimonate(1-), hexafluoro-, (OC-6-11)-, hydrogen, compd. with
 2-bromo-N,N,N',N'-tetrakis[4-(dipropylamino)phenyl]-1,4-benzenediamine
 (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 102278-78-4

CMF C54 H75 Br N6



CM 2

CRN 16950-06-4

CMF F6 Sb . H

CCI CCS



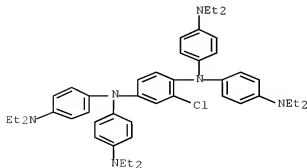
RN 102278-95-5 CAPLUS

CN 1,4-Benzenediamine, 2-chloro-N,N,N',N'-tetrakis[4-(diethylamino)phenyl]-, mono[tetrafluoroborate(1-)] (9CI) (CA INDEX NAME)

CM 1

CRN 102278-94-4

CMF C46 H59 Cl N6



CM 2

CRN 16872-11-0

CMF B F4 . H

CCI CCS



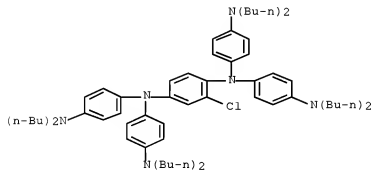
RN 102279-03-8 CAPLUS

CN Antimonate(1-), hexafluoro-, (OC-6-11)-, hydrogen, compd. with
2-chloro-N,N,N',N'-tetrakis[4-(dibutylamino)phenyl]-1,4-benzenediamine
(1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 102279-02-7

CMF C62 H91 Cl N6



CM 2

CRN 16950-06-4

CMF F6 Sb . H

CCI CCS



OS.CITING REF COUNT: 14 THERE ARE 14 CAPLUS RECORDS THAT CITE THIS RECORD (18 CITINGS)

L15 ANSWER 8 OF 9 CAPLUS COPYRIGHT 2010 ACS on SIN

ACCESSION NUMBER: 1977:73159 CAPLUS Full-text

DOCUMENT NUMBER: 86:73159

ORIGINAL REFERENCE NO.: 86:11613a,11616a

TITLE: Preparation of poly (N-phenyliminoperfluorophenylene).
Solvent effects on reactions between anilides and hexafluorobenzene

AUTHOR(S): Koppang, Rolf

CORPORATE SOURCE: Dep. Dent. Technol., Univ. Oslo, Oslo, Norway

SOURCE: Journal of Fluorine Chemistry (1976), 8(5), 389-400

CODEN: JFLCAR; ISSN: 0022-1139

DOCUMENT TYPE: Journal

LANGUAGE: English

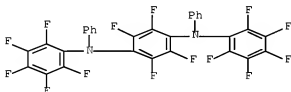
AB The reactions between anilides and hexafluorobenzene [392-56-3] were accelerated in the presence of dipolar aprotic solvents, and the yield of poly(N-phenyliminoperfluorophenylene) [61552-67-8], prepared from 2,3,4,5,6-pentafluoro-N-lithiophenylanilide [61553-15-9] and hexafluorobenzene, reflects this solvent effect. The structure and some thermal properties of the insol. polymer are discussed.

IT 3947-54-4P 4630-23-3P 61555-69-9P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

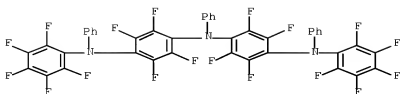
RN 3947-54-4 CAPLUS

CN 1,4-Benzenediamine, 2,3,5,6-tetrafluoro-N1,N4-bis(2,3,4,5,6-pentafluorophenyl)-N1,N4-diphenyl- (CA INDEX NAME)



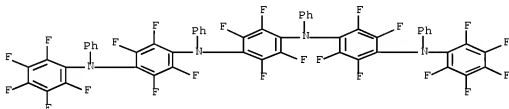
RN 4630-23-3 CAPLUS

CN 1,4-Benzenediamine, 2,3,5,6-tetrafluoro-N1-(2,3,4,5,6-pentafluorophenyl)-N1,N4-diphenyl-N4-[2,3,5,6-tetrafluoro-4-[(2,3,4,5,6-pentafluorophenyl)phenylamino]phenyl]- (CA INDEX NAME)



RN 61555-69-9 CAPLUS

CN 1,4-Benzenediamine, 2,3,5,6-tetrafluoro-N1,N4-diphenyl-N1,N4-bis[2,3,5,6-tetrafluoro-4-[(2,3,4,5,6-pentafluorophenyl)phenylamino]phenyl]- (CA INDEX NAME)



OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD (3 CITINGS)

L15 ANSWER 9 OF 9 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1965:29481 CAPLUS Full-text

DOCUMENT NUMBER: 62:29481

ORIGINAL REFERENCE NO.: 62:5211f-h

TITLE: Synthetical applications of activated metal catalysts.

XX. Action of degassed Raney Ni on

N-alkyl-o-alkylanilines

AUTHOR(S): Jackson, G. D. F.; Sasse, W. H. F.

CORPORATE SOURCE: Univ. Adelaide

SOURCE: Australian Journal of Chemistry (1964), 17(3), 337-46

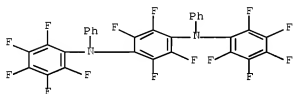
CODEN: AJCHAS; ISSN: 0004-9425

DOCUMENT TYPE: Journal

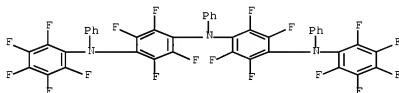
LANGUAGE: English

AB cf. CA 60, 6252b; Yeh and Kalechito, CA 55, 3588a. Several N-alkyl-o-alkylanilines were dehydrogenated with degassed Raney Ni at temps. not exceeding 230°. o-Propylaniline (I), N-methyl-o-ethylaniline (II), N-ethyl-o-toluidine (III), N-allylaniline (IV), o-ethylaniline (V), and indoline (VI) yielded complex mixts. which gave pos. Ehrlich tests. I yielded o-ethylaniline, o-toluidine, and aniline, which suggested that a stepwise degradation of the o-alkyl groups takes place. IV yielded aniline and some N-propylaniline, which indicated that N-alkyl groups are removed in one step. All the anilines gave indoles, but yields varied widely. II gave the best yield (13%), whereas III and IV yielded amts. detected only by paper chromatography. II was the only aniline to give both indole and 3-methylindole. II also was found to give all compds. (including carbazole) which so far have been identified among the products of the action of degassed Raney Ni on quinoline. It is concluded that the mechanism of the conversion of quinoline to indole and 3-methylindole proceeds by way of II.

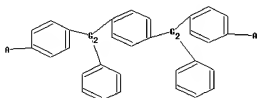
IT 3947-54-4F, p-Phenylenediamine,
 2,3,5,6-tetrafluoro-N,N'-bis(pentafluorophenyl)-N,N'-diphenyl-
 4630-23-3F, Triphenylamine,
 2,2',3,3',5,5',6,6'-octafluoro-4,4'-bis(2,3,4,5,6-pentafluoro-N-
 phenylanilino)-
 RL: PREP (Preparation)
 (preparation of)
 RN 3947-54-4 CAPLUS
 CN 1,4-Benzenediamine, 2,3,5,6-tetrafluoro-N1,N4-bis(2,3,4,5,6-
 pentafluorophenyl)-N1,N4-diphenyl- (CA INDEX NAME)



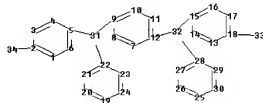
RN 4630-23-3 CAPLUS
 CN 1,4-Benzenediamine, 2,3,5,6-tetrafluoro-N1-(2,3,4,5,6-pentafluorophenyl)-
 N1,N4-diphenyl-N4-[2,3,5,6-tetrafluoro-4-[(2,3,4,5,6-
 pentafluorophenyl)phenylamino]phenyl]- (CA INDEX NAME)



=>
 Uploading C:\Program Files\STNEXP\Queries\10582459#1.str



6₄-H₉-6₄



42-39-40

chain nodes :
 31 32 33 34 39 40 42
 ring nodes :
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
 24 25 26 27 28 29 30
 chain bonds :
 2-34 5-31 9-31 12-32 15-32 18-33 22-31 28-32 39-40 39-42

```

ring bonds :
1-2 1-6 2-3 3-4 4-5 5-6 7-8 7-12 8-9 9-10 10-11 11-12 13-14 13-18 14-
15
15-16 16-17 17-18 19-20 19-24 20-21 21-22 22-23 23-24 25-26 25-30 26-27
27-28 28-29
29-30
exact/norm bonds :
2-34 5-31 9-31 12-32 15-32 18-33 22-31 28-32 39-40 39-42
normalized bonds :
1-2 1-6 2-3 3-4 4-5 5-6 7-8 7-12 8-9 9-10 10-11 11-12 13-14 13-18 14-
15
15-16 16-17 17-18 19-20 19-24 20-21 21-22 22-23 23-24 25-26 25-30 26-27
27-28 28-29
29-30
isolated ring systems :
containing 1 : 7 : 13 : 19 : 25 :

```

G1:Ak,H

G2:N,P

G3:B,X

```

Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom
11:Atom 12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 17:Atom 18:Atom 19:Atom
20:Atom 21:Atom
22:Atom 23:Atom 24:Atom 25:Atom 26:Atom 27:Atom 28:Atom 29:Atom 30:Atom
31:CLASS 32:CLASS
33:CLASS 34:CLASS 39:Atom 40:CLASS 42:CLASS
Generic attributes :
39:
Saturation : Unsaturated

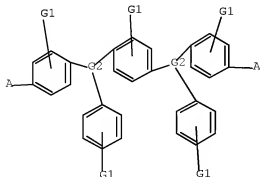
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L1 STRUCTURE UPLOADED

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=> d l1
L1 HAS NO ANSWERS
L1 STR

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G1 Ak,H
G2 N,P

Structure attributes must be viewed using STN Express query preparation.

```
=> s spirobifluorene/cn
L2          1 SPIROBIFLUORENE/CN
```

```
=> d rsd
```

```
L2  ANSWER 1 OF 1  REGISTRY  COPYRIGHT 2010 ACS on STN
```

Ring System Data

Elemental Analysis EA	Elemental Sequence ES	Size of the Rings SZ	Ring System Formula RF	Ring Identifier RID	RID Occurrence Count
C5-C5-C6-C6-	C5-C5-C6-C6-	5-5-6-6-6-6	C25	9841.9.1	1
C6-C6	C6-C6				

```
=> s 9841.9/rid and L1
COMBINATION OF STRUCTURE AND TEXT TERMS NOT VALID
The query entered contains both search terms created by
structure-building or screen commands and text search terms. L#s
created via the STRUCTURE or SCREEN commands must be searched in the
structures files separately from text terms or profiles. The L#
answer sets from structure searches can be used in crossover searches
and can be combined with text terms.
```

```
=> s l1
SAMPLE SEARCH INITIATED 16:52:05 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 13445 TO ITERATE
```

```
100.0% PROCESSED 13445 ITERATIONS 50 ANSWERS
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.01
```

```
FULL FILE PROJECTIONS: ONLINE **COMPLETE**
                        BATCH **COMPLETE**
PROJECTED ITERATIONS: 261951 TO 275849
PROJECTED ANSWERS: 1198 TO 2322
```

```
L3          50 SEA SSS SAM L1
```

```
=> s l1 full
FULL SEARCH INITIATED 16:52:13 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 269408 TO ITERATE
```

```
100.0% PROCESSED 269408 ITERATIONS 1906 ANSWERS
SEARCH TIME: 00.00.02
```

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L4          1906 SEA SSS FUL L1
```

```
=> s l4 and 9841.1/rid
```

L5 107 9841.1/RID
0 L4 AND 9841.1/RID

=> s l4 and 9841.1/rid
107 9841.1/RID
L6 0 L4 AND 9841.1/RID

=> s indenofluorene/cn
L7 0 INDENOFUORENE/CN

=> s benzene/cn
L8 1 BENZENE/CN

=> d rsd

L8 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2010 ACS on STN

Ring System Data

Elemental Analysis	Elemental Sequence	Size of the Rings	Ring Formula	Ring Identifier	RID Occurrence
EA	ES	SZ	RF	RID	Count
C6	C6	6	C6	46.150.18	1

=> s l4 and 46.150/rid
37714236 46.150/RID
L9 1906 L4 AND 46.150/RID

This file contains CAS Registry Numbers for easy and accurate
substance identification.

=> s l9
L10 1131 L9

=> s l10 and polymer?
2430238 POLYMER?
101933 POLYMD
101933 POLYMD
40369 POLYMG
414644 POLYMN
11220 POLYMNS
416171 POLYMN
(POLYMN OR POLYMNS)
2514766 POLYMER?
(POLYMER? OR POLYMD OR POLYMG OR POLYMN)
L11 495 L10 AND POLYMER?

=> s l11 and electrolumin?
112644 ELECTROLUMIN?
L12 257 L11 AND ELECTROLUMIN?

=> d ibib abs hitstr 255-257

L12 ANSWER 255 OF 257 CAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 1997:618270 CAPLUS Full-text
DOCUMENT NUMBER: 127:263592

ORIGINAL REFERENCE NO.: 127:51481a,51484a
 TITLE: Crosslinkable or chain extendable polyarylpolyamines and films for electroluminescent devices
 INVENTOR(S): Woo, Edmund P.; Inbasekaran, Michael; Shiang, William R.; Roof, Gordon R.; Wu, Weishi
 PATENT ASSIGNEE(S): Dow Chemical Co., USA
 SOURCE: PCT Int. Appl., 57 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9733193	A2	19970912	WO 1997-US2643	19970220
WO 9733193	A3	20020926		
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, UZ, VN, YU RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG AU 9722776 A 19970922 AU 1997-22776 19970220 US 5929194 A 19990727 US 1997-967348 19971027 PRIORITY APPLN. INFO.: US 1996-606180 A 19960223 US 1996-696280 A 19960813 WO 1997-US2643 W 19970220				

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

OTHER SOURCE(S): MARPAT 127:263592

AB The polyarylpolyamines are prepared by the reaction of ≥ 1 tertiary di- or polyarylamine having 2 halogen substituents with a haloarom. compound having a crosslinkable reactive group or trialkylsiloxy moiety. Films of the title compds., as well as films of polymers of their crosslinkable species, are efficient in the transport of pos. charges when exposed to relatively low voltage levels, and demonstrate solvent and heat resistance.

IT 113703-67-6P
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (crosslinkable or chain extendable polyarylpolyamines for solvent-resistant films for electroluminescent devices)

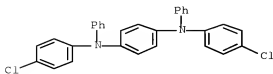
RN 113703-67-6 CAPLUS

CN 1,4-Benzenediamine, N,N'-bis(4-chlorophenyl)-N,N'-diphenyl-, homopolymer (9CI) (CA INDEX NAME)

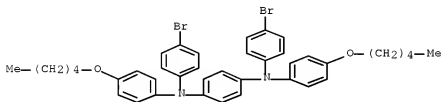
CM 1

CRN 113703-66-5

CMF C30 H22 C12 N2



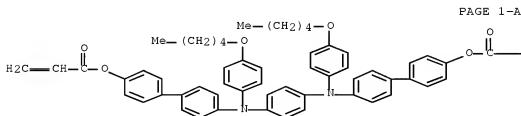
IT 195730-42-8DP, reaction products with silyl-containing
benzeneboronic acid
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT
(Reactant or reagent)
(crosslinkable or chain extendable polyarylpolyamines for
solvent-resistant films for electroluminescent devices)
RN 195730-42-8 CAPLUS
CN 1,4-Benzenediamine, N1,N4-bis(4-bromophenyl)-N1,N4-bis[4-
(pentyloxy)phenyl]- (CA INDEX NAME)



IT 195730-45-1P 195730-55-3P
RL: IMF (Industrial manufacture); PREP (Preparation)
(film; crosslinkable or chain extendable polyarylpolyamines for
solvent-resistant films for electroluminescent devices)
RN 195730-45-1 CAPLUS
CN 2-Propenoic acid, 2-ethyl-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-
propanediyl ester, polymer with 1,4-phenylenebis[[[4-
(pentyloxy)phenyl]imino][1,1'-biphenyl]-4',4-diyl] di-2-propenoate (9CI)
(CA INDEX NAME)

CM 1

CRN 195730-44-0
CMF C58 H56 N2 O6



PAGE 1-A

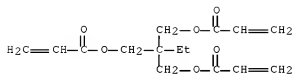
PAGE 1-B

—CH=CH2

CM 2

CRN 15625-89-5

CMF C15 H20 O6



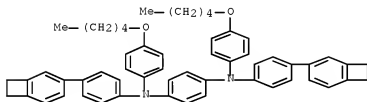
RN 195730-55-3 CAPLUS

CN 1,4-Benzenediamine, N,N'-bis(4-bicyclo[4.2.0]octa-1,3,5-trien-3-ylphenyl)-
N,N'-bis[4-(pentyloxy)phenyl]-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 195730-53-1

CMF C56 H56 N2 O2



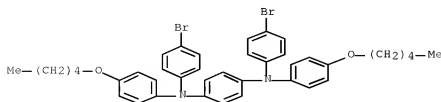
IT 195730-42-8P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT
(Reactant or reagent)

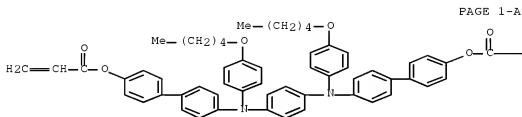
(intermediate; crosslinkable or chain extendable polyarylpolyamines for
solvent-resistant films for electroluminescent devices)

RN 195730-42-8 CAPLUS

CN 1,4-Benzenediamine, N1,N4-bis(4-bromophenyl)-N1,N4-bis[4-
(pentyloxy)phenyl]- (CA INDEX NAME)



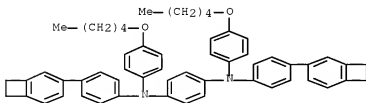
IT 195730-44-0P 195730-53-1P
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT
 (Reactant or reagent)
 (preparation and polymerization; crosslinkable or chain extendable
 polyarylpolyamines for solvent-resistant films for
 electroluminescent devices)
 RN 195730-44-0 CAPLUS
 CN 2-Propenoic acid, 1,4-phenylenebis[[[(4-pentyloxy)phenyl]imino][1,1'-
 biphenyl]-4',4-diyl] ester (9CI) (CA INDEX NAME)



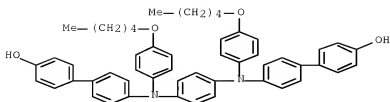
PAGE 1-B



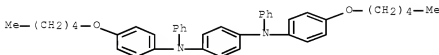
RN 195730-53-1 CAPLUS
 CN 1,4-Benzenediamine, N1,N4-bis(4-bicyclo[4.2.0]octa-1,3,5-trien-3-ylphenyl)-
 N1,N4-bis[4-(pentyloxy)phenyl]- (CA INDEX NAME)



IT 195730-43-9P
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT
 (Reactant or reagent)
 (reaction with acryloyl chloride; crosslinkable or chain extendable
 polyarylpolyamines for solvent-resistant films for
 electroluminescent devices)
 RN 195730-43-9 CAPLUS
 CN [1,1'-Biphenyl]-4-ol, 4',4'''-[1,4-phenylenebis[[4-
 (pentyloxy)phenyl]imino]]bis- (9CI) (CA INDEX NAME)



IT 195730-40-6P
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
 (reaction with bromosuccinimide; crosslinkable or chain extendable polyarylpolyamines for solvent-resistant films for electroluminescent devices)
 RN 195730-40-6 CAPLUS
 CN 1,4-Benzenediamine, N1,N4-bis[4-(pentyloxy)phenyl]-N1,N4-diphenyl- (CA INDEX NAME)



OS.CITING REF COUNT: 29 THERE ARE 29 CAPLUS RECORDS THAT CITE THIS RECORD (33 CITINGS)
 REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 256 OF 257 CAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 1997:563439 CAPLUS [Full-text](#)
 DOCUMENT NUMBER: 127:191351
 ORIGINAL REFERENCE NO.: 127:37119a,37122a
 TITLE: Synthesis of polymers for hole and electron transport materials in organic electroluminescent devices
 AUTHOR(S): Son, Jhun Mo; Sakaki, Yuichi; Ogino, Kenji; Sato, Hisaya
 CORPORATE SOURCE: Faculty of Technology, Tokyo University of Agriculture and Technology, Tokyo, 184, Japan
 SOURCE: IEEE Transactions on Electron Devices (1997), 44(8), 1307-1314
 CODEN: IETDAI; ISSN: 0018-9383
 PUBLISHER: Institute of Electrical and Electronics Engineers
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB Styrene-type polymers having tetraphenylbenzidine (TPD) or tetraphenylphenyldiaminobenzene unit (PDA) and a oxadiazole unit on the side chain were prepared as hole and electron transport materials, resp., of an electroluminescent device. The device structures employed were [ITO/hole transport layer/Al] (type I), or [ITO/hole transport layer/electron transport layer/Al] (type II). Type I devices provided c.d. higher than 100 mA/cm² but no luminescence was observed Type II devices emitted luminescence of about 10

cd/m2 at the c.d. of about 170 mA/cm2. The emission maximum of these devices were 460 and 530 nm for the device using TPD and PDA, resp.

IT 194354-35-3P
 RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
 (preparation of styrene derivative polymers for hole and electron transport materials in organic electroluminescent devices)

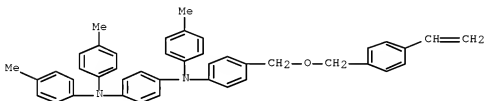
RN 194354-35-3 CAPLUS

CN 1,4-Benzenediamine, N-[4-[[4-ethenylphenyl)methoxy]methyl]phenyl]-N,N',N'-tris(4-methylphenyl)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 194354-34-2

CMF C43 H40 N2 O



OS.CITING REF COUNT: 21 THERE ARE 21 CAPLUS RECORDS THAT CITE THIS RECORD (21 CITINGS)

REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 257 OF 257 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1996:560311 CAPLUS Full-text

DOCUMENT NUMBER: 125:196755

ORIGINAL REFERENCE NO.: 125:36861a,36864a

TITLE: Polymeric carrier-transporting materials for electroluminescent devices, electrophotographic photoreceptors, etc.

INVENTOR(S): Ito, Juichi; Sato, Hisaya; Hayashi, Takako

PATENT ASSIGNEE(S): Toppan Printing Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 20 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

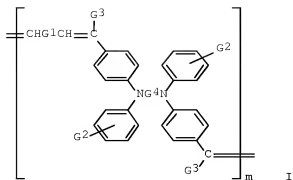
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08157575	A	19960618	JP 1994-330622	19941207
JP 3482719	B2	20040106		
PRIORITY APPLN. INFO.:			JP 1994-330622	19941207

GI



AB The title materials capable of forming carrier-transporting layers by spin coating or casting with Tg $\geq 120^\circ$ and good mech. strength have the general formula I [$m = d.p.$; G1 = direct bond, arylene, alkylene, alkylenedioxy, other linking group; G2 = (halo)alkyl; G3 = H, alkyl; G4 = phenylene, biphenylene, other linking group]. N,N'-bis(4-formylphenyl)-N,N'-di-p-tolyl-p-phenylenediamine was prepared and polymerized with m-xylylbis(triphenylphosphonium chloride).

IT 181064-89-1P 181064-90-4P
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (polymeric carrier-transporting materials for
 electroluminescent devices and electrophotog. photoreceptors)

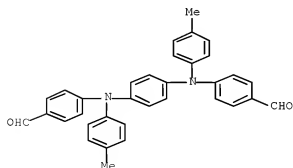
RN 181064-89-1 CAPLUS

CN Phosphonium, [1,3-phenylenebis(methylene)]bis[triphenyl-, dichloride, polymer with 4,4'-[1,4-phenylenebis(4-methylphenyl)imino]]bis[benzaldehyde] (9CI) (CA INDEX NAME)

CM 1

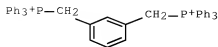
CRN 131660-39-4

CMF C34 H28 N2 O2



CM 2

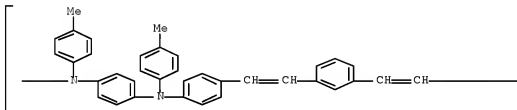
CRN 66726-75-8
 CME C44 H38 P2 . 2 Cl



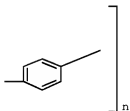
● 2 Cl-

RN 181064-90-4 CAPLUS
 CN Poly[[(4-methylphenyl)imino]-1,4-phenylene[(4-methylphenyl)imino]-1,4-phenylene-1,2-ethenediyl-1,3-phenylene-1,2-ethenediyl-1,4-phenylene] (9CI)
 (CA INDEX NAME)

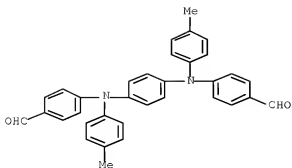
PAGE 1-A



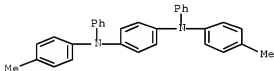
PAGE 1-B



IT 131660-39-4P 138171-14-9P
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT
 (Reactant or reagent)
 (polymeric carrier-transporting materials for
 electroluminescent devices and electrophotog. photoreceptors)
 RN 131660-39-4 CAPLUS
 CN Benzaldehyde, 4,4'-[1,4-phenylenebis[(4-methylphenyl)imino]]bis- (CA
 INDEX NAME)



RN 138171-14-9 CAPLUS
 CN 1,4-Benzenediamine, N1,N4-bis(4-methylphenyl)-N1,N4-diphenyl- (CA INDEX NAME)



OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD (3 CITINGS)

=> d ibib abs hitstr 250-254

L12 ANSWER 250 OF 257 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1999:456106 CAPLUS Full-text

DOCUMENT NUMBER: 131:206309

TITLE: Dependence of the hole-injection barrier on the hole conductor in organic light emitting diodes based on composites

AUTHOR(S): Gross, Markus; Muller, David; Brauchle, Christoph; Meerholz, Klaus

CORPORATE SOURCE: Institut fur Physikalische Chemie, Munich, 80333, Germany

SOURCE: Synthetic Metals (1999), 102(1-3), 1147-1148
 CODEN: SYMEDZ; ISSN: 0379-6779

PUBLISHER: Elsevier Science S.A.

DOCUMENT TYPE: Journal

LANGUAGE: English

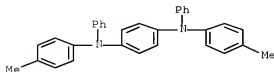
AB Organic LEDs based on composites using different hole conductors were fabricated and characterized. In these devices the current flux is limited by the injection of holes into the semi-conducting polymer layer through tunneling. The data were evaluated using the common Fowler-Nordheim formalism. The barrier height depends linearly on the oxidation potential of the hole conductor, but unexpectedly the slope is only 0.55 ± 0.1 . This result is explained by the nonpolar nature of the internal interface between ITO and the conductive layer.

IT 138171-14-9

RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process); USES (Uses)
(hole-injection barrier dependence on hole conductor in organic LEDs based on)

RN 138171-14-9 CAPLUS

CN 1,4-Benzenediamine, N1,N4-bis(4-methylphenyl)-N1,N4-diphenyl- (CA INDEX NAME)



OS.CITING REF COUNT: 5 THERE ARE 5 CAPLUS RECORDS THAT CITE THIS RECORD (5 CITINGS)
REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 251 OF 257 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1998:758655 CAPLUS Full-text

DOCUMENT NUMBER: 130:59045

TITLE: Styryl-containing polymer, its manufacture, and organic electroluminescent device, electrophotographic photoreceptor, and hole-transporting material using it

INVENTOR(S): Ueda, Hideaki; Kitahara, Takeshi; Nozaki, Takeshi
PATENT ASSIGNEE(S): Minolta Camera Co., Ltd., Japan; Konica Minolta Holdings, Inc.

SOURCE: Jpn. Kokai Tokkyo Koho, 17 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10310606	A	19981124	JP 1997-119194	19970509
JP 3800720	B2	20060726		
US 6066712	A	20000523	US 1998-74914	19980508
			JP 1997-119192	A 19970509
			JP 1997-119194	A 19970509

PRIORITY APPLN. INFO.:

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB The styryl-containing polymer is represented by $[CH_2CH(Ar_1CH:CHAr_2)]_n$ (Ar_1 = arylene; Ar_2 = aryl, condensed polycyclic group, heterocyclic group; Ar_1 and Ar_2 may be substituted; n = natural number). The above polymer is manufactured by (1) the reaction between a P compound $[CH_2CH(Ar_1CH_2X)]_n$ and an aldehyde compound Ar_2CHO or (2) the reaction between an aldehyde compound $[CH_2CH(Ar_1CHO)]_n$ and a P compound Ar_2CH_2X [$X = PO(OR_1)_2$ or PR_2_3Y ; R_1 = lower alkyl; R_2 = cycloalkyl, aryl; Y = halo]. The electroluminescent device contains the polymer in ≥ 1 organic compound thin layer including a light-emitting layer and the photoreceptor contains the polymer as a charge-transporting material. The hole-transporting material composed of the polymer

IT 217449-78-0

(styryl-containing polymer as charge-transporting material for organic electroluminescent device and electrophotog. photoreceptor)

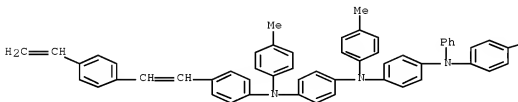
RN 217449-78-0 CAPLUS

CM 1

CRN 217449-77-9

CMF C55 H47 N3

PAGE 1-A



PAGE 1-B

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OS.CITING REF COUNT: 6 THERE ARE 6 CAPLUS RECORDS THAT CITE THIS RECORD
(7 CITINGS)

L12 ANSWER 252 OF 257 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1998:649994 CAPLUS Full-text

DOCUMENT NUMBER: 129:295943

ORIGINAL REFERENCE NO.: 129:60235a,60238a

TITLE: Electroluminescent polymer

compositions and processes

INVENTOR(S): Hsieh, Bing R.

PATENT ASSIGNEE(S): Xerox Corporation, USA

SOURCE: U.S., 13 pp.

CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.

KIND	DATE
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APPLICATION NO.

DATE _____

US 5817430	A	19981006	US 1996-751532	19961113
US 5876865	A	19990302	US 1998-106554	19980629
PRIORITY APPLN. INFO.:			US 1996-751532	A3 19961113

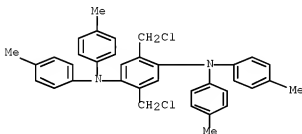
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB Methods for preparing polymers are described which entail: polymerizing at least one monomer of the formula X-CH₂-Ar-CH₂-X' in the presence of a base and at least one chain end controlling additive of the formula R-H to form a soluble conjugated poly(arylene vinylene) of the formula R-CH₂-[Ar-CHCH-]_n-Ar-CH₂-R (X and X' = electron withdrawing groups; R-H = compound containing at least 1 acidic proton; R = nucleophile; Ar = aryl or aromatic group with from 5-30 C atoms; and n = the number of repeating segments).

IT 214281-24-QDP, polymers, reaction products with chain end controlling additives
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (electroluminescent polyarylene vinylene polymer preparation)

RN 214281-24-0 CAPLUS

CN 1,4-Benzenediamine, 2,5-bis(chloromethyl)-N,N,N',N'-tetrakis(4-methylphenyl)- (9CI) (CA INDEX NAME)



OS.CITING REF COUNT: 16 THERE ARE 16 CAPLUS RECORDS THAT CITE THIS RECORD (16 CITINGS)

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 253 OF 257 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1998:175869 CAPLUS Full-text

DOCUMENT NUMBER: 128:223710

ORIGINAL REFERENCE NO.: 128:44195a,44198a

TITLE: Heat-resistant organic electroluminescent device

INVENTOR(S): Antoniadis, Homer; Roitman, Daniel B.; Shiang, William R.; Woo, Edmund P.; Wu, Weishi

PATENT ASSIGNEE(S): Hewlett-Packard Co., USA; Dow Chemical Co.

SOURCE: Eur. Pat. Appl., 19 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

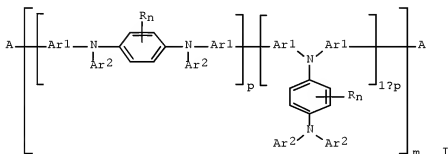
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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EP 827366	A2	19980304	EP 1997-114846	19970827
EP 827366	A3	19980819		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
US 5948552	A	19990907	US 1996-704476	19960827
JP 10092582	A	19980410	JP 1997-244868	19970827
JP 4478221	B2	20100609		
JP 2010157750	A	20100715	JP 2010-21855	20100203
PRIORITY APPLN. INFO.:			US 1996-704476	A 19960827
			JP 1997-244868	A3 19970827

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
 OTHER SOURCE(S): MARPAT 128:223710
 GI



AB Organic electroluminescent devices comprising a substrate, a transparent first conductive layer next to the substrate, an electron-transporting and light-emitting layer, a hole-transporting layer sandwiched between the first conductive layer and the electron-transporting and light-emitting layer, and a second conductive layer next to the electron-transporting and light-emitting layer and remote from the hole-transporting layer are described in which the hole-transporting layer comprises a poly(aryleneamine) described by the general formula I (R = independently selected C1-24 hydrocarbyl, hydrocarboxyl, hydrothiocarboxy, hydroarylcboxy, or hydrothioarylcboxy groups; Ar1 and Ar2 = independently selected C6-18 aryl groups optionally substituted with ≥ 1 C1-24 hydrocarbyl, hydrocarboxyl, hydrothiocarboxy, hydroarylcboxy, or hydrothioarylcboxy groups; A = independently selected groups selected from H and halogens; p = 0-1; n = 0-4; and m = 5-1000).

IT 113703-67-6P 202873-05-0P
 RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
 (heat-resistant organic electroluminescent devices with polyaryleneamine hole-transporting layers)

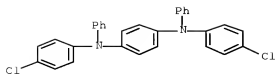
RN 113703-67-6 CAPLUS

CN 1,4-Benzenediamine, N,N'-bis(4-chlorophenyl)-N,N'-diphenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 113703-66-5

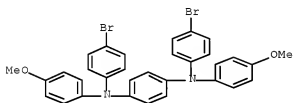
CMF C30 H22 C12 N2



RN 202873-05-0 CAPLUS
 CN 1,4-Benzenediamine, N,N'-bis(4-bromophenyl)-N,N'-bis(4-methoxyphenyl)-,
 homopolymer (9CI) (CA INDEX NAME)

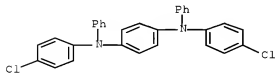
CM 1

CRN 202873-04-9
 CMF C32 H26 Br2 N2 O2

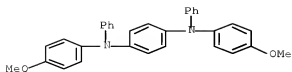


IT 113703-66-5P 124526-50-7P 202873-04-9P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (heat-resistant organic electroluminescent devices with
 polyarylamine hole-transporting layers)

RN 113703-66-5 CAPLUS
 CN 1,4-Benzenediamine, N1,N4-bis(4-chlorophenyl)-N1,N4-diphenyl- (CA INDEX
 NAME)

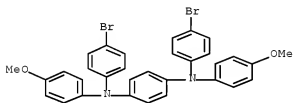


RN 124526-50-7 CAPLUS
 CN 1,4-Benzenediamine, N1,N4-bis(4-methoxyphenyl)-N1,N4-diphenyl- (CA INDEX
 NAME)



RN 202873-04-9 CAPLUS

CN 1,4-Benzenediamine, N1,N4-bis(4-bromophenyl)-N1,N4-bis(4-methoxyphenyl)-
(CA INDEX NAME)



OS.CITING REF COUNT: 20 THERE ARE 20 CAPLUS RECORDS THAT CITE THIS
RECORD (20 CITINGS)

L12 ANSWER 254 OF 257 CAPLUS COPYRIGHT 2010 ACS ON STN

ACCESSION NUMBER: 1998:126295 CAPLUS [Full-text](#)

DOCUMENT NUMBER: 128:180801

ORIGINAL REFERENCE NO.: 128:35685a,35688a

TITLE: Polyarylamines, their preparation, and films thereof
Wu, Weishi; Shiang, William R.; Woo, Edmund P.

PATENT ASSIGNEE(S): Dow Chemical Company, USA

SOURCE: PCT Int. Appl., 25 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

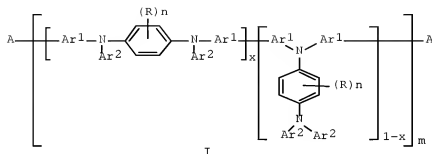
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9806773	A1	19980219	WO 1997-US12478	19970714
W: JP, KR				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
US 5728801	A	19980317	US 1996-696281	19960813
EP 918811	A1	19990602	EP 1997-939338	19970714
EP 918811	B1	20001227		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
AT 198338	T	20010115	AT 1997-939338	19970714
JP 2001503074	T	20010306	JP 1998-509717	19970714
JP 4172821	B2	20081029		
KR 2000029916	A	20000525	KR 1999-7001113	19990210
JP 2008069367	A	20080327	JP 2007-279072	20071026
JP 4439554	B2	20100324		

PRIORITY APPLN. INFO.: US 1996-696281 A 19960813

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
 GI



AB A poly(arylamine) composition comprises one or more compds. of structure I (R = C1-24 hydrocarbyl, C1-24 hydrocarboxy, C1-24 hydrocarbylthiooxy, C1-24 hydrocarbylcarboxyl; Ar1, Ar2 = C6-18 aryl, C1-12 hydrocarbyl-, C1-12 hydrocarbyloxy-, C1-12 hydrocarbylthiooxy-, C1-12 hydrocarbylcarboxyl-substituted C6-18 aryl, A = H, halogen; x = 0, 1; n = 0-4; m = 5-1000). The monomers useful in the preparation of polyarylamines comprise two amino moieties wherein each amino moiety is bound to three aryl moieties wherein two halo moieties are optionally bound to the monomer. The invention further relates to films prepared from such polyarylamines, as well as electrophotog. devices and electroluminescent devices containing such films, such as polymeric light-emitting diodes. The invention also relates to processes for the preparation of polyarylamines.

IT 113703-67-6P 202873-05-0P
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (polyarylamines, their preparation, and films thereof)

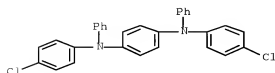
RN 113703-67-6 CAPLUS

CN 1,4-Benzenediamine, N,N'-bis(4-chlorophenyl)-N,N'-diphenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 113703-66-5

CMF C30 H22 C12 N2



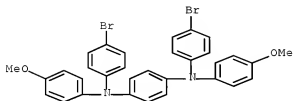
RN 202873-05-0 CAPLUS

CN 1,4-Benzenediamine, N,N'-bis(4-bromophenyl)-N,N'-bis(4-methoxyphenyl)-,
homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 202873-04-9

CMF C32 H26 Br2 N2 O2



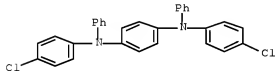
IT 113703-66-5P 124526-50-7P 202873-04-9P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT
(Reactant or reagent)

(polyarylamines, their preparation, and films thereof)

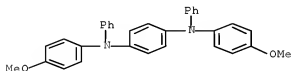
RN 113703-66-5 CAPLUS

CN 1,4-Benzenediamine, N1,N4-bis(4-chlorophenyl)-N1,N4-diphenyl- (CA INDEX
NAME)



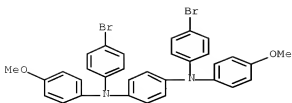
RN 124526-50-7 CAPLUS

CN 1,4-Benzenediamine, N1,N4-bis(4-methoxyphenyl)-N1,N4-diphenyl- (CA INDEX
NAME)



RN 202873-04-9 CAPLUS

CN 1,4-Benzenediamine, N1,N4-bis(4-bromophenyl)-N1,N4-bis(4-methoxyphenyl)-
(CA INDEX NAME)



This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s l12 and spirobiflu?
536 SPIROBIFLU?

L13 4 L12 AND SPIROBIFLU?

=> d ibib abs hitstr 4

L13 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2003:661197 CAPLUS [Full-text](#)

DOCUMENT NUMBER: 139:387882

TITLE: Enhanced luminance of blue light-emitting polymers by blending with hole-transporting materials

AUTHOR(S): Suh, Min Chul; Chin, Byung Doo; Kim, Mu-Hyun; Kang, Tae Min; Lee, Seong Taek

CORPORATE SOURCE: Corporate R&D Center, Samsung SDI Co., Ltd, Gyeonggi-Do, 449-902, Taiwan

SOURCE: Advanced Materials (Weinheim, Germany) (2003), 15(15), 1254-1258

CODEN: ADVMEW; ISSN: 0935-9648

PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The laser-induced thermal imaging (LITI) process is well suited for patterning any type of electroluminescent spin-coatable materials. The relation and balance of LEP [light emitting polymer compns., e.g., Covion blue polymer (CB)] cohesion and interlayer adhesion between the LEP and HTL [hole transport layer] and between the LEP layer and the donor film are key issues in determining the quality of the patterning process. Optically and electronically inert polymers such as polystyrene (PS), poly(Me methacrylate) (PMMA), poly(acenaphthylene) (PANA), were evaluated in as hosts in LEP mixts. to improve LITI pattern quality. Amorphous HTMs [hole transporting material]s were also evaluated to attain a decrease in operating voltage of devices; the HTMs include 1,3,5-tris[N,N-bis(4-methoxyphenyl)aminophenyl]benzene (TDAPB), 4,4',4''-tris[N-(3-methylphenyl)-N-phenylamino]triphenylamine (MTDATA), N,N'-di[4-(N,N'-diphenylamino)phenyl]-N,N'-diphenylbenzidine (DNTPD), and 1,1-bis[4-bis(4-methylphenyl)aminophenyl]cyclohexane (TAPC). The process and materials were used to fabricate improved bright blue light-emitting patterned PLEDs.

IT 220865-73-6

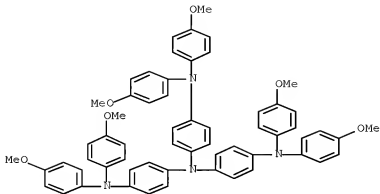
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)

(TDAPB, hole-transporting layer; enhanced luminance of blue PLEDs by blending blue emitter with hole-transport compds. and by fabrication using laser-induced thermal imaging patterning technique)

RN 220865-73-6 CAPLUS

CN 1,4-Benzenediamine, N1,N1-bis[4-[bis(4-methoxyphenyl)amino]phenyl]-N4,N4-

bis(4-methoxyphenyl)- (CA INDEX NAME)



OS.CITING REF COUNT: 37 THERE ARE 37 CAPLUS RECORDS THAT CITE THIS
RECORD (37 CITINGS)
REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d bib abs hitstr 1-3

L13 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2010:505608 CAPLUS Full-text
DOCUMENT NUMBER: 152:477664
TITLE: Conjugated polymers with low polydispersity
for electronic and optoelectronic applications
INVENTOR(S): Meyer, Frank; Schulte, Niels; Kreuder, Willi
PATENT ASSIGNEE(S): Merck Patent GmbH, Germany
SOURCE: Ger. Offen., 20pp.; Chemical Indexing Equivalent to
152:406318 (WO)
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 102008049037	A1	20100422	DE 2008-102008049037	20080925
WO 2010034393	A1	20100401	WO 2009-EP6355	20090902
W:	AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW			
RW:	AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, SM, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			

PRIORITY APPLN. INFO.:

DE 2008-102008049037A 20080925

AB The invention relates to novel polymers comprising one or more recurrent units selected from spirobifluorene, indenofluorene, phenanthrene, dihydrophenanthrene, dihydropyrene, tetrahydropyrene and dihydrobenzooxepine derivs. and having low polydispersity and high mol. weight The invention further relates to a method for production of conjugated or partially conjugated polymers, to blends and formulations comprising the polymers, and to the use of the polymers in electronic and optoelectronic devices, particularly in organic light emitting diodes.

IT 1005004-67-0F 1219172-37-8F

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(conjugated polymers with low polydispersity for electronic and optoelectronic applications)

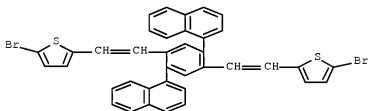
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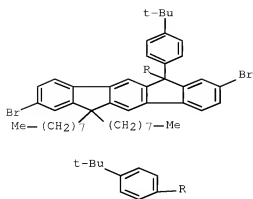
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CRN 1005004-64-7

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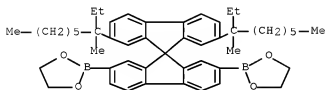




CM 3

CRN 1001635-13-7

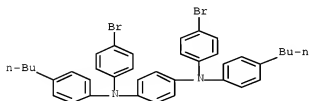
CMF C49 H62 B2 O4



CM 4

CRN 372200-89-0

CMF C38 H38 Br2 N2



RN 1219172-37-8 CAPLUS

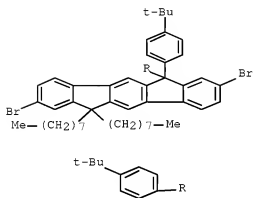
CN 1,4-Benzenediamine, N1,N4-bis(4-bromophenyl)-N1,N4-bis(4-butylphenyl)-, polymer with 2,2'-[2',7'-bis(1-ethyl-1-methylheptyl)-9,9'-spirobi[9H-fluorene]-2,7'-diyl]bis[1,3,2-dioxaborolane], 4-bromo-N-[4-[2-(4-bromophenyl)ethenyl]phenyl]-N-[4-(1,1-dimethylethyl)phenyl]benzenamine and

2,8-dibromo-6,6-bis[4-(1,1-dimethylethyl)phenyl]-6,12-dihydro-12,12-dioctylindeno[1,2-b]fluorene (CA INDEX NAME)

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CRN 1004757-02-1

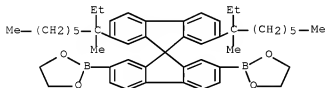
CMF C56 H68 Br2



CM 2

CRN 1001635-13-7

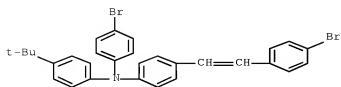
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CM 3

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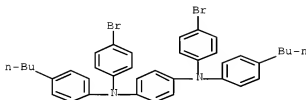
CMF C30 H27 Br2 N



CM 4

CRN 372200-89-0

CMF C38 H38 Br2 N2



REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2010:405905 CAPLUS Full-text

DOCUMENT NUMBER: 152:406318

TITLE: Conjugated polymers with low polydispersity for electronic and optoelectronic applications

INVENTOR(S): Meyer, Frank Egon; Schulte, Niels; Kreuder, Willi

PATENT ASSIGNEE(S): Merck Patent GmbH, Germany

SOURCE: PCT Int. Appl., 43pp.; Chemical Indexing Equivalent to

152:477664 (DE)

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2010034393	A1	20100401	WO 2009-EP6355	20090902
W:	AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, VZ, VN, ZA, ZM, ZW			
RW:	AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, SM, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
DE 102008049037	A1	20100422	DE 2008-102008049037	20080925
PRIORITY APPLN. INFO.:			DE 2008-102008049037A	20080925

AB The invention relates to novel polymers comprising one or more recurrent units selected from spirobifluorene, indenofluorene, phenanthrene, dihydrophenanthrene, dihydropyrene, tetrahydropyrene and dihydrobenzoxepine derivs. and having low polydispersity and high mol. weight The invention

further relates to a method for production of conjugated or partially conjugated polymers, to blends and formulations comprising the polymers, and to the use of the polymers in electronic and optoelectronic devices, particularly in organic light emitting diodes.

IT 1005004-67-0P 1219172-37-8P

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(conjugated polymers with low polydispersity for electronic and optoelectronic applications)

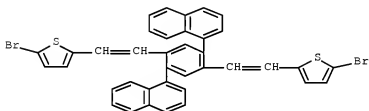
RN 1005004-67-0 CAPLUS

CN 1,4-Benzenediamine, N1,N4-bis(4-bromophenyl)-N1,N4-bis(4-butylphenyl)-, polymer with 2,2'-[2',7'-bis(1-ethyl-1-methylheptyl)-9,9'-spirobi[9H-fluorene]-2,7'-diyl]bis[1,3,2-dioxaborolane], 2,8-dibromo-6,6-bis[4-(1,1-dimethylethyl)phenyl]-6,12-dihydro-12,12-dioctylindeno[1,2-b]fluorene and 2,2'-[(2,5-di-1-naphthalenyl-1,4-phenylene)di-2,1-ethenediyl]bis[5-bromothiophene] (CA INDEX NAME)

CM 1

CRN 1005004-64-7

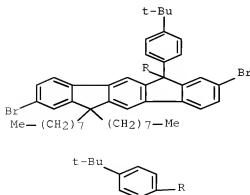
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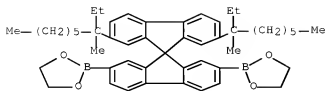
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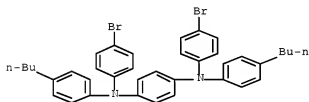
CMF C49 H62 B2 O4



CM 4

CRN 372200-89-0

CMF C38 H38 Br2 N2



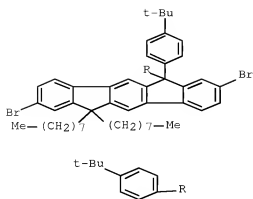
RN 1219172-37-8 CAPLUS

CN 1,4-Benzenediamine, N1,N4-bis(4-bromophenyl)-N1,N4-bis(4-butylphenyl)-, polymer with 2,2'-[2',7'-bis(1-ethyl-1-methylheptyl)-9,9'-spirobi[9H-fluorene]-2,7-diyl]bis[1,3,2-dioxaborolane], 4-bromo-N-[4-[2-(4-bromophenyl)ethenyl]phenyl]-N-[4-(1,1-dimethylethyl)phenyl]benzenamine and 2,8-dibromo-6,6-bis[4-(1,1-dimethylethyl)phenyl]-6,12-dihydro-12,12-dioctylindeno[1,2-b]fluorene (CA INDEX NAME)

CM 1

CRN 1004757-02-1

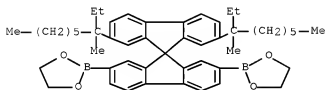
CMF C56 H68 Br2



CM 2

CRN 1001635-13-7

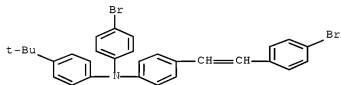
CMF C49 H62 Br2 O4



CM 3

CRN 942216-48-0

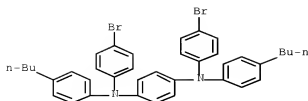
CMF C30 H27 Br2 N



CM 4

CRN 372200-89-0

CMF C38 H38 Br2 N2



REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 2008:219480 CAPLUS Full-text
 DOCUMENT NUMBER: 148:263088
 TITLE: Conjugated polymers and dendrimers, process for their preparation and their use
 INVENTOR(S): Schulte, Niels; Scheurich, Rene Peter; Pan, Junyou
 PATENT ASSIGNEE(S): Merck Patent GmbH, Germany
 SOURCE: PCT Int. Appl., 47 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2008019744	A1	20080221	WO 2007-EP6383	20070718
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GO, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
DE 102006038683	A1	20080221	DE 2006-102006038683	20060817
EP 2052006	A1	20090429	EP 2007-786157	20070718
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR, AL, BA, HR, MK, RS				
JP 2010501030	T	20100114	JP 2009-524088	20070718
CN 101511902	A	20090819	CN 2007-80030404	20090216
US 20100227974	A1	20100909	US 2009-377628	20090216
KR 2009040390	A	20090423	KR 2009-7005422	20090316
PRIORITY APPLN. INFO.: DE 2006-102006038683A 20060817				
WO 2007-EP6383 W 20070718				

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
 OTHER SOURCE(S): CASREACT 148:263088

AB The invention relates to conjugated polymers and to dendrimers comprising 9,10-dihydrophenanthrene structural units, to processes for their preparation and to their use in electronic components, especially in polymeric organic

light-emitting diodes, to monomers for their preparation, and to components and light-emitting diodes comprising such polymers and dendrimers. These polymers and dendrimers exhibit improved color stability and lower operating voltage increase so that the life span of the polymer light-emitting diodes are longer.

IT 1006868-15-0P 1006868-16-1P

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(conjugated polymers and dendrimers containing dihydrophenanthrene units with good color stability for light-emitting diodes)

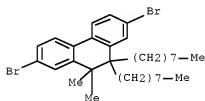
RN 1006868-15-0 CAPLUS

CN 1,4-Benzenediamine, N1,N4-bis(4-bromophenyl)-N1,N4-bis(4-butylphenyl)-, polymer with 2,2'-[2',7'-bis(1-ethyl-1-methylheptyl)-9,9'-spirobi[9H-fluorene]-2,7-diyl]bis[1,3,2-dioxaborolane], 4-bromo-N-[4-[2-(4-bromophenyl)ethenyl]phenyl]-N-[4-(1,1-dimethylethyl)phenyl]benzenamine and 2,7-dibromo-9,10-dihydro-9,9-dimethyl-10,10-dioctylphenanthrene (CA INDEX NAME)

CM 1

CRN 1006868-12-7

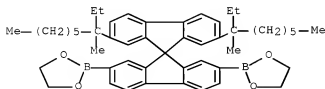
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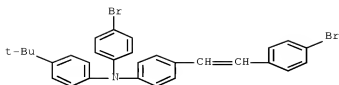
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CM 3

CRN 942216-48-0

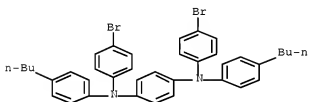
CMF C30 H27 Br2 N



CM 4

CRN 372200-89-0

CMF C38 H38 Br2 N2



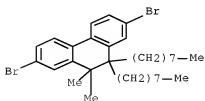
RN 1006868-16-1 CAPLUS

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CRN 1006868-12-7

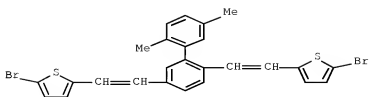
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CM 2

CRN 1004757-06-5

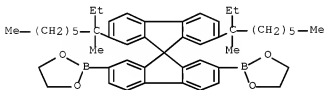
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CM 3

CRN 1001635-13-7

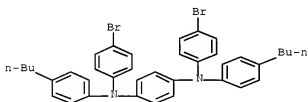
CMF C49 H62 B2 O4



CM 4

CRN 372200-89-0

CMF C38 H38 Br2 N2



REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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(FILE 'HOME' ENTERED AT 16:47:50 ON 21 DEC 2010)

FILE 'REGISTRY' ENTERED AT 16:48:19 ON 21 DEC 2010

L1 STRUCTURE UPLOADED
L2 1 S SPIROBIFLUORENE/CN

L3 50 S L1
L4 1906 S L1 FULL
L5 0 S L4 AND 9841.1/RID
L6 0 S L4 AND 9841.1/RID
L7 0 S INDENOFUORENE/CN
L8 1 S BENZENE/CN
L9 1906 S L4 AND 46.150/RID

FILE 'CAPLUS' ENTERED AT 16:55:40 ON 21 DEC 2010

L10 1131 S L9
L11 495 S L10 AND POLYMER?
L12 257 S L11 AND ELECTROLUMIN?

FILE 'STNGUIDE' ENTERED AT 17:00:14 ON 21 DEC 2010

FILE 'CAPLUS' ENTERED AT 17:01:26 ON 21 DEC 2010
L13 4 S L12 AND SPIROBIFLU?

<http://www.cas.org/legal/infopolicy.html>

This file contains CAS Registry Numbers for easy and accurate
substance identification.

=> s l12 and ?phenanthran?
51 ?PHENANTHRAN?
L14 0 L12 AND ?PHENANTHRAN?

=> s l12 and copolymer?
828009 COPOLYMER?
55550 COPOLYMN
2749 COPOLYMNS
56585 COPOLYMN
 (COPOLYMN OR COPOLYMNS)
18203 COPOLYMD
1 COPOLYMDS
18204 COPOLYMD
 (COPOLYMD OR COPOLYMDS)
6144 COPOLYMG
844468 COPOLYMER?
 (COPOLYMER? OR COPOLYMN OR COPOLYMD OR COPOLYMG)
L15 74 L12 AND COPOLYMER?

=> s l12 and copolymer and heterocycl?
760102 COPOLYMER
222344 COPOLYMERS
815392 COPOLYMER
 (COPOLYMER OR COPOLYMERS)
194596 HETEROCYCL?
L16 20 L12 AND COPOLYMER AND HETEROCYCL?

=> d ibib abs hitstr 19-20

L16 ANSWER 19 OF 20 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2003:559879 CAPLUS Full-text

DOCUMENT NUMBER: 139:124780

TITLE: Copolymers having aromatic amine repeating
 units, their compositions, and light-emitting diodes
 and devices

INVENTOR(S): Suzuki, Tomoyuki; Doi, Shuji; Noguchi, Kiminobu

PATENT ASSIGNEE(S): Sumitomo Chemical Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 16 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003206335	A	20030722	JP 2002-7167	20020116
JP 4035995	B2	20080123		

PRIORITY APPLN. INFO.: JP 2002-7167 20020116

AB The copolymers have (A) ≥ 1 stilbenzyl units Ar1CR1:CR2Ar2 (Ar1, Ar2 = arylene, divalent heterocyclic group; R1, R2 = H, alkyl, alkoxy, alkylthio, alkylsilyl, alkylamino, aryl, aryloxy, arylsilyl, arylamino, arylalkyl, arylalkoxy, arylalkylsilyl, arylalkylamino, arylalkenyl, arylalkynyl, monovalent heterocyclic group, cyano) and (B) ≥ 1 aromatic amine units Ar3Ar4NAr5(NAr6Ar7)n (Ar3, Ar5, Ar7 = arylene, divalent heterocyclic group; Ar4, Ar6 = aryl, monovalent heterocyclic group; n = 0-3). The compns. comprise the copolymers and polymers, giving fluorescence at solid states, with polystyrene-based number-average mol. weight 103-108. Light-emitting diodes, surface light sources, displays, and liquid-crystal displays using the copolymers are also claimed. The copolymers show high fluorescent intensity.

IT 565227-14-7P
 RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (copolymers having aromatic amine units with high fluorescent intensity for LED)

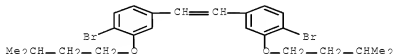
RN 565227-14-7 CAPLUS

CN 1,4-Benzenediamine, N,N'-bis(4-bromophenyl)-N,N'-bis(4-butylphenyl)-, polymer with N,N-bis(4-bromophenyl)-4-[2-[4-(1,1-dimethylethyl)phenyl]ethenyl]benzenamine and 1,1'-(1,2-ethenediyl)bis[4-bromo-3-(3-methylbutoxy)benzene] (9CI) (CA INDEX NAME)

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CRN 565227-11-4

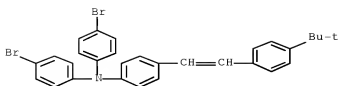
CMF C24 H30 Br2 O2



CM 2

CRN 474787-40-1

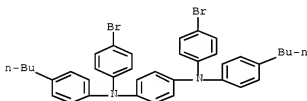
CMF C30 H27 Br2 N



CM 3

CRN 3/2200-89-0

CMF C38 H38 Br2 N2



OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD
(2 CITINGS)

L16 ANSWER 20 OF 20 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2003:373850 CAPLUS Full-text

DOCUMENT NUMBER: 138:392820

TITLE: Polymer compound and polymer
light-emitting device using the same

INVENTOR(S): Oguma, Jun; Tsubata, Yoshiaki; Doi, Shuji

PATENT ASSIGNEE(S): Sumitomo Chemical Company, Limited, Japan

SOURCE: Eur. Pat. Appl., 36 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1310539	A1	20030514	EP 2002-257717	20021107
EP 1310539	B1	20050316		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
TW 249542	B	20060221	TW 2002-132237	20021031
SG 112858	A1	20050728	SG 2002-6657	20021101
US 20030165713	A1	20030904	US 2002-287655	20021105
US 6830832	B2	20041214		
JP 2003226744	A	20030812	JP 2002-322413	20021106
JP 4182245	B2	20081119		
KR 917770	B1	20090921	KR 2002-68357	20021106
JP 2008133298	A	20080612	JP 2008-28695	20080208

PRIORITY APPLN. INFO.:

JP 2001-344482

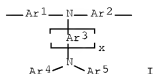
A 20011109

JP 2002-322413

A3 20021106

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

GI



AB A polymer compound having polystyrene reduced number average mol. weight of 103-108, and comprising one or more kinds of repeating units according to -Ar1N[(Ar3)xNAr3Ar4]Ar2- (Ar1, Ar2 = arylene group, or divalent heterocyclic compound group; Ar3 = arylene group, arylene vinylene group, or divalent heterocyclic compound group; x = 1-10; wherein when x is 22, a plurality of Ar3 may be the same or different; Ar4, Ar5 = aryl group, monovalent heterocyclic compound group, or compound with repeating units of -Ar6- wherein Ar6 = phenylene, stilbene-diyl, distilbene-diyl, fluorene-diyl, divalent condensed polycyclic aromatic, divalent monocyclic hetero-ring, divalent condensed polycyclic hetero ring, or divalent amine compound group). A polymer light-emitting device using the polymer is also described. A display apparatus comprising the polymer light-emitting device is also described. A dot-matrix display apparatus comprising the polymer light-emitting device is also described. A liquid crystal display apparatus comprising the polymer light-emitting device is also described.

IT 525602-22-6P 525602-25-9P

RL: DEV (Device component use); IMF (Industrial manufacture); PRP (Properties); PREP (Preparation); USES (Uses)
(copolymer compound and polymer light-emitting device using the same)

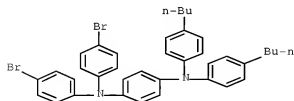
RN 525602-22-6 CAPLUS

CN 1,4-Benzenediamine, N,N-bis(4-bromophenyl)-N',N'-bis(4-butylphenyl)-, polymer with 2,7-dibromo-9,9-dioctyl-9H-fluorene (9CI) (CA INDEX NAME)

CM 1

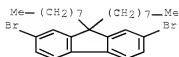
CRN 525602-21-5

CMF C38 H38 Br2 N2



CM 2

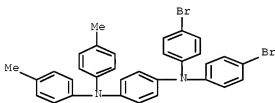
CRN 198964-46-4
CMF C29 H40 Br2



RN 525602-25-9 CAPLUS
CN 1,4-Benzenediamine, N,N-bis(4-bromophenyl)-N',N'-bis(4-methylphenyl)-,
polymer with 2,7-dibromo-9,9-dioctyl-9H-fluorene (9CI) (CA INDEX NAME)

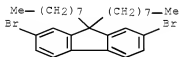
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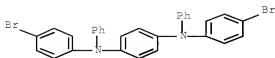


CM 2

CRN 198964-46-4
CMF C29 H40 Br2

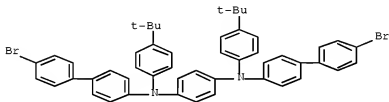


IT 525602-17-9P 525602-20-4P 525602-23-7P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT
(Reactant or reagent)
(copolymer compound and polymer light-emitting device
using the same)
RN 525602-17-9 CAPLUS
CN 1,4-Benzenediamine, N1,N4-bis(4-bromophenyl)-N1,N4-diphenyl- (CA INDEX
NAME)



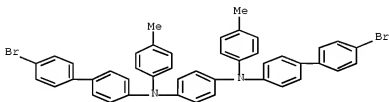
RN 525602-20-4 CAPLUS

CN 1,4-Benzenediamine, N1,N4-bis(4'-bromo[1,1'-biphenyl]-4-yl)-N1,N4-bis(4-(1,1-dimethylethyl)phenyl)- (CA INDEX NAME)



RN 525602-23-7 CAPLUS

CN 1,4-Benzenediamine, N1,N4-bis(4'-bromo[1,1'-biphenyl]-4-yl)-N1,N4-bis(4-methylphenyl)- (CA INDEX NAME)



OS.CITING REF COUNT: 19 THERE ARE 19 CAPLUS RECORDS THAT CITE THIS
RECORD (33 CITINGS)
REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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760102 COPOLYMER
222344 COPOLYMERS
815392 COPOLYMER
(COPOLYMER OR COPOLYMERS)
194596 HETEROCYCL?
430059 MONOMER?
313 HETEROCYCL? MONOMER?
(HETEROCYCL?(W)MONOMER?)
L17 0 L12 AND COPOLYMER AND (HETEROCYCL? MONOMER?)
=> s l12 and (heterocycl? monomer?)
194596 HETEROCYCL?

430059 MONOMER?
 313 HETEROCYCL? MONOMER?
 (HETEROCYCL?(W)MONOMER?)
 L18 0 L12 AND (HETEROCYCL? MONOMER?)

=> s l12 and (aromatic monomer?)
 270469 AROMATIC
 10451 AROMATICS
 275303 AROMATIC
 (AROMATIC OR AROMATICS)
 402399 AROM
 19287 AROMS
 412618 AROM
 (AROM OR AROMS)
 546778 AROMATIC
 (AROMATIC OR AROM)
 430059 MONOMER?
 2144 AROMATIC MONOMER?
 (AROMATIC(W)MONOMER?)
 L19 2 L12 AND (AROMATIC MONOMER?)

=> d ibib abs hitstr 1-2

L19 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 2005:122651 CAPLUS Full-text
 DOCUMENT NUMBER: 142:228438
 TITLE: Aromatic monomer-metal complexes
 and electroluminescent conjugated
 polymers formed from them and electronic
 devices using the polymers
 INVENTOR(S): Yu, Wanglin; O'Brien, James J.
 PATENT ASSIGNEE(S): Sumitomo Chemical Company, Limited, Japan
 SOURCE: U.S. Pat. Appl. Publ., 8 pp.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20050031900	A1	20050210	US 2004-893182	20040716
US 7705528	B2	20100427		
WO 2005016945	A1	20050224	WO 2004-US23123	20040716
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
GB 2421242	A	20060621	GB 2006-2029	20040716
GB 2421242	B	20080102		
CN 1829725	A	20060906	CN 2004-80021671	20040716
DE 112004001446	T5	20061102	DE 2004-112004001446	20040716
JP 2007501230	T	20070125	JP 2006-522581	20040716

US 20100160631	Al	20100624	US 2010-718238	20100305
PRIORITY APPLN. INFO.:			US 2003-492434P	P 20030804
			US 2004-893182	A3 20040716
			WO 2004-US23123	W 20040716

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

OTHER SOURCE(S): MARPAT 142:228438

AB Halogenated aromatic monomer-metal complexes are described which comprise a metal selected from Ir, Rh, and Os bound to a ligand and to 2 linked aromatic moieties, ≥ 1 of which is heteroarom., which are bound in turn to substituents that include ≥ 1 halogenated aromatic monomer fragment and a linking group that disrupts conjugation between the aromatic monomer fragment and the metal complex fragment. Electroluminescent polymers having conjugated backbones that include structural units of the aromatic monomer metal complexes and of ≥ 1 aromatic comonomer are also described. Disruption of conjugation is done to preserve the phosphorescent emission properties of the metal complex in the polymers formed from the aromatic monomer-metal complexes. Electronic devices incorporating the polymers are also described.

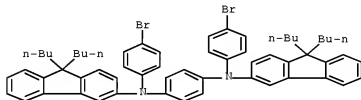
IT 842121-95-3DP, polymers with metal complexes and aromatic compds.

RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(aromatic monomer-metal complexes with conjugation-disrupting linking groups and electroluminescent polymers incorporating them and electronic devices using the polymers)

RN 842121-95-3 CAPLUS

CN 1,4-Benzenediamine, N1,N4-bis(4-bromophenyl)-N1,N4-bis(9,9-dibutyl-9H-fluoren-3-yl)- (CA INDEX NAME)



OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD (4 CITINGS)

L19 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2003:450802 CAPLUS Full-text

DOCUMENT NUMBER: 139:36984

TITLE: Fluorescent polymer, their preparation and polymer light-emitting device

INVENTOR(S): Kobayashi, Satoshi; Noguchi, Takanobu; Tsubata, Yoshiaki; Kitano, Makoto; Doi, Shuji; Ueoka, Takahiro; Nakazono, Akiko

PATENT ASSIGNEE(S): Sumitomo Chemical Company, Limited, Japan

SOURCE: Eur. Pat. Appl., 58 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

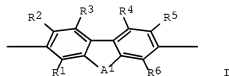
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1318163	A1	20030611	EP 2002-258395	20021205
EP 1318163	B1	20100127		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
SG 124249	A1	20060830	SG 2002-7169	20021127
JP 2003231741	A	20030819	JP 2002-347573	20021129
JP 4192578	B2	20081210		
TW 268941	B	20061221	TW 2002-134721	20021129
US 20030168656	A1	20030911	US 2002-309101	20021204
EP 2067807	A1	20090610	EP 2009-4354	20021205
R: DE, FR, GB, NL				
EP 2067808	A1	20090610	EP 2009-4355	20021205
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE, SI, SK, TR, AL, LT, LV, MK, RO				
US 20050042195	A1	20050224	US 2004-954223	20041001
US 7662478	B2	20100216		
US 20080103278	A1	20080501	US 2007-955788	20071213
JP 2008179821	A	20080807	JP 2008-17653	20080129
JP 2009001804	A	20090108	JP 2008-174340	20080703
KR 2010065249	A	20100616	KR 2010-36721	20100421

PRIORITY APPLN. INFO.:

JP 2001-373924	A	20011207
JP 2002-347573	A3	20021129
KR 2002-76547	A3	20021204
US 2002-309101	B1	20021204
EP 2002-258395	A3	20021205
US 2004-954223	A1	20041001

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

GI



I

AB A polymer of Mn 103-108 comprises a repeating unit I, where A1 = divalent group in which the bond distance ratio (bond distance of C(α)-A1 / bond distance of C(α)-C(β)) is ≥ 1.10 ; R1-6 = H, alkyl, alkyloxy, aryloxy, arylalkyloxy; R2 and R3 or R4 and R5 may be connected to form a ring. The polymer is useful as a light-emitting material, a charge transporting material, etc.

IT 540536-18-3P 540536-20-7P 540536-22-9P

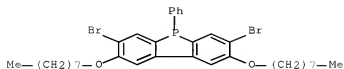
540536-23-0P 540536-24-1P

RL: IMF (Industrial manufacture); PREP (Preparation)
(preparation and fluorescence)

RN 540536-18-3 CAPLUS

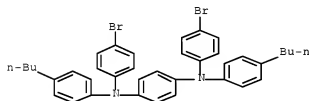
CN 1,4-Benzenediamine, N,N'-bis(4-bromophenyl)-N,N'-bis(4-butylphenyl)-, polymer with 3,7-dibromo-2,8-bis(octyloxy)-5-phenyl-5H-benzo[b]phosphindole (9CI) (CA INDEX NAME)

CRN 540536-07-0
 CMF C34 H43 Br2 O2 P



CM 2

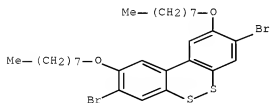
CRN 372200-89-0
 CMF C38 H38 Br2 N2



RN 540536-20-7 CAPLUS
 CN 1,4-Benzenediamine, N,N'-bis(4-bromophenyl)-N,N'-bis(4-butylphenyl)-,
 polymer with 3,8-dibromo-2,9-bis(octyloxy)dibenzo[c,e][1,2]dithiin (9CI)
 (CA INDEX NAME)

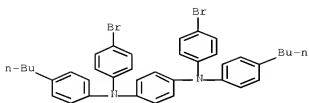
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CM 2

CRN 372200-89-0
 CMF C38 H38 Br2 N2



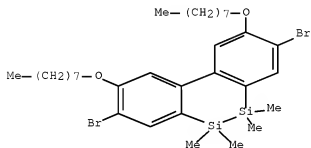
RN 540536-22-9 CAPLUS

CN 1,4-Benzenediamine, N,N'-bis(4-bromophenyl)-N,N'-bis(4-butylphenyl)-, polymer with 2,7-dibromo-9,10-dihydro-9,9,10,10-tetramethyl-3,6-bis(octyloxy)-9,10-disilaphenanthrene (9CI) (CA INDEX NAME)

CM 1

CRN 540536-10-5

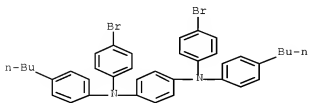
CMF C32 H50 Br2 O2 Si2



CM 2

CRN 372200-89-0

CMF C38 H38 Br2 N2



RN 540536-23-0 CAPLUS

CN 1,4-Benzenediamine, N,N'-bis(4-bromophenyl)-N,N'-bis(4-butylphenyl)-,

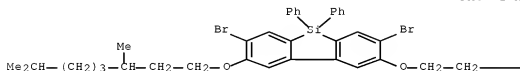
polymer with 2,7-dibromo-3,6-bis[(3,7-dimethyloctyl)oxy]-9,9-diphenyl-9H-9-silafluorene (9CI) (CA INDEX NAME)

CM 1

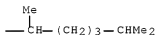
CRN 540536-14-9

CMF C44 H56 Br2 O2 Si

PAGE 1-A



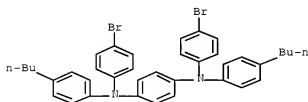
PAGE 1-B



CM 2

CRN 372200-89-0

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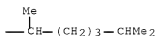
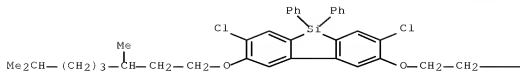
RN 540536-24-1 CAPLUS

CN 1,4-Benzenediamine, N,N'-bis(4-bromophenyl)-N,N'-bis(4-butylphenyl)-, polymer with 2,7-dichloro-3,6-bis[(3,7-dimethyloctyl)oxy]-9,9-diphenyl-9H-9-silafluorene (9CI) (CA INDEX NAME)

CM 1

CRN 540536-16-1

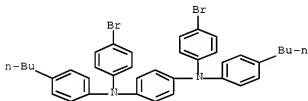
CMF C44 H56 Cl2 O2 Si



CM 2

CRN 372200-89-0

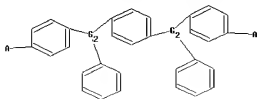
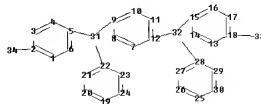
CMF C38 H38 Br2 N2



OS.CITING REF COUNT: 11 THERE ARE 11 CAPLUS RECORDS THAT CITE THIS
RECORD (15 CITINGS)
REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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6₉-H₁₉-6₉4₂-3₉-4₈

```

chain nodes :
31 32 33 34 39 40 42
ring nodes :
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
24 25 26 27 28 29 30
chain bonds :
2-34 5-31 9-31 12-32 15-32 18-33 22-31 28-32 39-40 39-42
ring bonds :
1-2 1-6 2-3 3-4 4-5 5-6 7-8 7-12 8-9 9-10 10-11 11-12 13-14 13-18 14-
15
15-16 16-17 17-18 19-20 19-24 20-21 21-22 22-23 23-24 25-26 25-30 26-27
27-28 28-29
29-30
exact/norm bonds :
2-34 5-31 9-31 12-32 15-32 18-33 22-31 28-32 39-40 39-42
normalized bonds :
1-2 1-6 2-3 3-4 4-5 5-6 7-8 7-12 8-9 9-10 10-11 11-12 13-14 13-18 14-
15
15-16 16-17 17-18 19-20 19-24 20-21 21-22 22-23 23-24 25-26 25-30 26-27
27-28 28-29
29-30
isolated ring systems :
containing 1 : 7 : 13 : 19 : 25 :

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G1: Ak, H

G2: N, P

G3: B, X

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Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom
11:Atom 12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 17:Atom 18:Atom 19:Atom
20:Atom 21:Atom
22:Atom 23:Atom 24:Atom 25:Atom 26:Atom 27:Atom 28:Atom 29:Atom 30:Atom
31:CLASS 32:CLASS
33:CLASS 34:CLASS 39:Atom 40:CLASS 42:CLASS
Generic attributes :
39:
Saturation : Unsaturated

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L1 STRUCTURE UPLOADED

=> d l1

L1 HAS NO ANSWERS

L1 STR

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

Structure attributes must be viewed using STN Express query preparation.

=> s l1

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SAMPLE SCREEN SEARCH COMPLETED - 11282 TO ITERATE

100.0% PROCESSED 11282 ITERATIONS 0 ANSWERS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 219273 TO 232007
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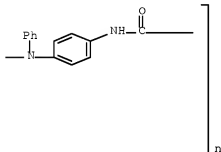
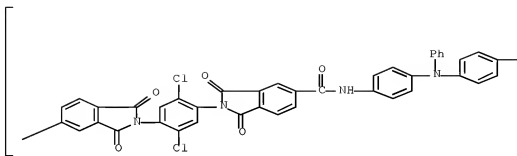
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This file contains CAS Registry Numbers for easy and accurate
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L4 11 L3
=> d ibib abs hitstr 6-11

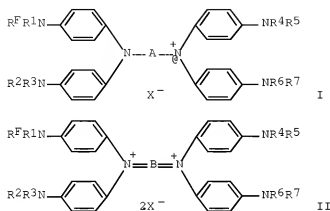
L4 ANSWER 6 OF 11 CAPLUS COPYRIGHT 2010 ACS ON STN
ACCESSION NUMBER: 2003:338216 CAPLUS Full-text
DOCUMENT NUMBER: 139:180435
TITLE: A novel class of organosoluble and strictly
alternating poly(amine-amide-imide)s containing
triphenylamine units in the main chain
AUTHOR(S): Liou, Guey-Sheng; Hsiao, Sheng-Huei
CORPORATE SOURCE: Department of Applied Chemistry, National Chi Nan
University, Nantou Hsien, 545, Taiwan
SOURCE: Polymer Journal (Tokyo, Japan) (2003), 35(4), 402-406
CODEN: POLJB8; ISSN: 0032-3896
PUBLISHER: Society of Polymer Science, Japan
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A series of triphenylamine-containing aromatic polyamine-polyamide-polyimides
are synthesized by the direct phosphorylation polycondensation of N,N'-bis(4-
aminophenyl)-N,N'-diphenyl-1,4-phenylenediamine and various imide ring-
containing dicarboxylic acids. The polymers are amorphous and exhibit good
solubility in polar aprotic solvents, thin-film forming ability, thermal
stability, and mech. properties.
IT 577746-63-5P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(soluble and strictly alternating polyamine-polyamide-polyimides containing
triphenylamine units in main chain)
RN 577746-63-5 CAPLUS
CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)(2,5-dichloro-1,4-
phenylene)(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)carbonylimino-1,4-
phenylene(phenylimino)-1,4-phenylene(phenylimino)-1,4-
phenyleneimino-carbonyl] (9CI) (CA INDEX NAME)



OS.CITING REF COUNT: 4 THERE ARE 4 CAPLUS RECORDS THAT CITE THIS RECORD
(4 CITINGS)
REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 7 OF 11 CAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 1995:494414 CAPLUS Full-text
DOCUMENT NUMBER: 122:252219
ORIGINAL REFERENCE NO.: 122:45797a,45800a
TITLE: IR-absorbing compounds and optical recording medium
using same
INVENTOR(S): Mihara, Cheko; Santo, Takeshi; Sugata, Hiroyuki
PATENT ASSIGNEE(S): Canon Kk, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 36 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 06220420	A	19940809	JP 1993-24969	19930121
JP 3199139	B2	20010813		



AB The title compds. are I or II [A = (p-phenylene)n, 1,4-naphthylene, 1,5-naphthylene, m-phenylene; B = (p-cyclohexadienyldiene)n, 1,4-naphthalenediylidene, 1,5-naphthalenediylidene; X- = metal complex anion; RF = F-containing monovalent organic residual group; R1-7 = RF, H, monovalent organic residual group]. The title medium comprises an organic dye thin film containing the above compds. The medium showed light-resistant characteristics.

IT 162315-56-2

RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)

(IR-absorbing compds. and optical recording medium using same)

RN 162315-56-2 CAPLUS

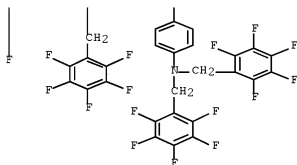
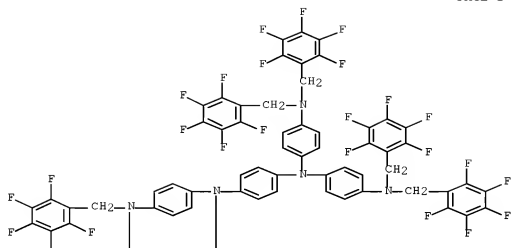
CN Cuprate(1-), bis[3,4,6-trichloro-1,2-benzenedithiolato(2-)-S,S']-, salt with N,N,N',N'-tetrakis[4-bis[(pentafluorophenyl)methyl]amino]phenyl]-1,4-benzenediamine (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 159252-86-5

CMF C86 H36 F40 N6

CCI RIS

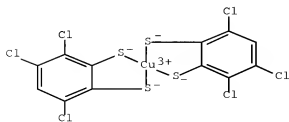


CM 2

CRN 143227-43-4

CMF C12 H2 Cl6 Cu S4

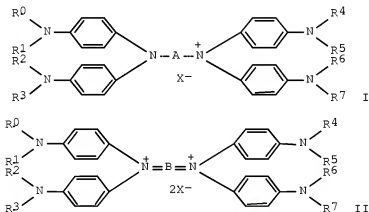
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OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD
(1 CITINGS)

L4 ANSWER 8 OF 11 CAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 1994:712146 CAPLUS Full-text
DOCUMENT NUMBER: 121:312146
ORIGINAL REFERENCE NO.: 121:56937a,56940a
TITLE: IR-absorbing compound and optical recording medium
using same
INVENTOR(S): Mihara, Cheko; Tamura, Miki; Santo, Takeshi; Sugata,
Hiroyuki
PATENT ASSIGNEE(S): Canon Kk, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 109 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 06024146	A	19940201	JP 1993-110576	19930512
PRIORITY APPLN. INFO.: GI			JP 1992-145046	A1 19920512



AB The title compound has a formula I or II (R0-7= H, monovalent organic residue while at least 1 of them contains F; or at least 1 group of R0 and R1, R2 and R3, R4 and R5 and R6 and R7 being atoms required to form a F-containing 5-7-membered ring with N while others being H, monovalent organic residue; A, B = specified aromatic group; X = anion). The recording medium contains the above compound in its recording layer. The compound shows good solubility and heat resistance to give recording medium with superior light and heat-resistance.

IT 159252-87-6

RL: USES (Uses)

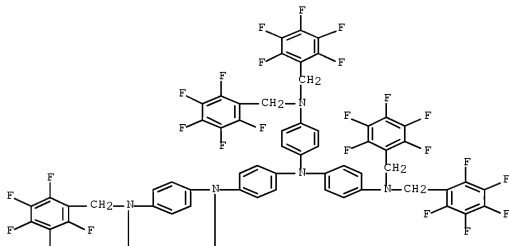
(IR-absorbent, optical recording medium using)

RN 159252-87-6 CAPLUS
 CN Arsenate(1-), hexafluoro-, salt with
 N,N,N',N'-tetrakis[4-[bis[(pentafluorophenyl)methyl]amino]phenyl]-1,4-
 benzenediamine (1:1) (9CI) (CA INDEX NAME)

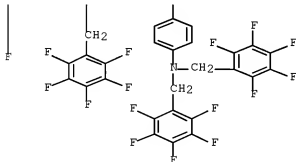
CM 1

CRN 159252-86-5
 CMF C86 H36 F40 N6
 CCI RIS

PAGE 1-A



PAGE 2-A



CM 2

CRN 16973-45-8
 CMF As F6
 CCI CCS



OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD
(2 CITINGS)

L4 ANSWER 9 OF 11 CAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 1987:205158 CAPLUS Full-text
 DOCUMENT NUMBER: 106:205158
 ORIGINAL REFERENCE NO.: 106:33113a,33116a
 TITLE: Electrophotographic photoreceptor containing
 charge-generating tetrakisazo compounds
 Umebara, Masashige; Matsumoto, Masakazu; Takiguchi,
 Takao; Yamashita, Masataka; Ishikawa, Shozo
 INVENTOR(S): Canon K. K., Japan
 PATENT ASSIGNEE(S):
 SOURCE: Jpn. Kokai Tokkyo Koho, 41 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 6
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 61240246	A	19861025	JP 1985-80248	19850417
JP 04002948	B	19920121		
US 4666810	A	19870519	US 1986-852243	19860415
PRIORITY APPLN. INFO.:			JP 1985-80248	A 19850417
			JP 1985-157699	A 19850717
			JP 1985-157700	A 19850717
			JP 1985-159401	A 19850718
			JP 1985-159402	A 19850718
			JP 1985-159403	A 19850718

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

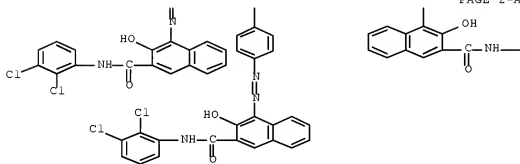
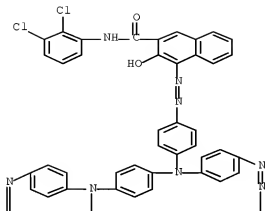
AB The tetrakisazo compound has the formula
 (AN:NZ2)(AN:NZ3)NZ1N(Z4N:NA)(Z5N:NA)(I; A = coupler residue with a phenolic OH
 group; Z1-Z5 = arylene). An electrophotog. composite photoconductor may be
 prepared by dispersing a tetrakisazo compound of the formula I (A = naphthol
 AS coupler residue; Z1-Z5 = 1, 4-phenylene) in a poly(vinyl butyral) binder to
 form a charge-generating layer and dispersing a hydrazone compound in a PMMA
 binder to give a charge-transport layer. The photoreceptor shows improved
 sensitivity and durability.

IT 108305-12-0 108305-17-5
 RL: USES (Uses)
 (electrophotog. photoreceptor containing charge-generating agent from, with
 improved sensitivity)

RN 108305-12-0 CAPLUS

CN 2-Naphthalenecarboxamide, 4,4',4'',4'''-[1,4-phenylenebis[nitrilobis(4,1-
 phenyleneazo)]]tetrakis[N-(2,5-dichlorophenyl)-3-hydroxy- (9CI) (CA INDEX
 NAME)

CN 2-Naphthalenecarboxamide, 4,4',4'',4'''-[1,4-phenylenebis[nitrilobis(4,1-phenyleneazo)]]tetrakis[N-(2,3-dichlorophenyl)-3-hydroxy- (9CI) (CA INDEX NAME)



OS.CITING REF COUNT: 5 THERE ARE 5 CAPLUS RECORDS THAT CITE THIS RECORD
(5 CITINGS)

L4 ANSWER 10 OF 11 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1977:73159 CAPLUS Full-text

DOCUMENT NUMBER: 86:73159

ORIGINAL REFERENCE NO.: 86:11613a,11616a

TITLE: Preparation of poly (N-phenyliminoperfluorophenylene).

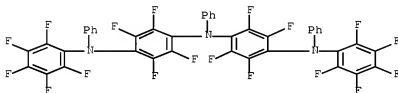
Solvent effects on reactions between anilides and hexafluorobenzene
 Koppang, Rolf
 Dep. Dent. Technol., Univ. Oslo, Oslo, Norway
 Journal of Fluorine Chemistry (1976), 8(5), 389-400
 CODEN: JFLCAR; ISSN: 0022-1139
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB The reactions between anilides and hexafluorobenzene [392-56-3] were accelerated in the presence of dipolar aprotic solvents, and the yield of poly(N-phenyliminoperfluorophenylene) [61552-67-8], prepared from 2,3,4,5,6-pentafluoro-N-lithiophenylanilide [61553-15-9] and hexafluorobenzene, reflects this solvent effect. The structure and some thermal properties of the insol. polymer are discussed.

IT 4630-23-3P 61555-69-9P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)

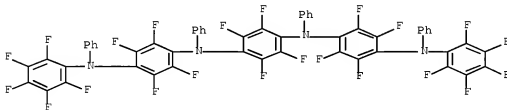
RN 4630-23-3 CAPLUS

CN 1,4-Benzenediamine, 2,3,5,6-tetrafluoro-N1-(2,3,4,5,6-pentafluorophenyl)-N1,N4-diphenyl-N4-[2,3,5,6-tetrafluoro-4-[(2,3,4,5,6-pentafluorophenyl)phenylamino]phenyl]- (CA INDEX NAME)



RN 61555-69-9 CAPLUS

CN 1,4-Benzenediamine, 2,3,5,6-tetrafluoro-N1,N4-diphenyl-N1,N4-bis[2,3,5,6-tetrafluoro-4-[(2,3,4,5,6-pentafluorophenyl)phenylamino]phenyl]- (CA INDEX NAME)

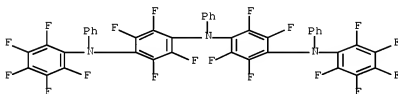


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L4 ANSWER 11 OF 11 CAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 1965:29481 CAPLUS Full-text
 DOCUMENT NUMBER: 62:29481
 ORIGINAL REFERENCE NO.: 62:5211f-h
 TITLE: Synthetical applications of activated metal catalysts.
 XX. Action of degassed Raney Ni on

AUTHOR(S): N-alkyl-o-alkylanilines
Jackson, G. D. F.; Sasse, W. H. F.
CORPORATE SOURCE: Univ. Adelaide
SOURCE: Australian Journal of Chemistry (1964), 17(3), 337-46
CODEN: AJCHAS; ISSN: 0004-9425
DOCUMENT TYPE: Journal
LANGUAGE: English

- AB cf. CA 60, 6252b; Yeh and Kalechito, CA 55, 3588a. Several N-alkyl-o-alkylanilines were dehydrogenated with degassed Raney Ni at temps. not exceeding 230°. o-Propylaniline (I), N-methyl-o-ethylaniline (II), N-ethyl-o-toluidine (III), N-allylaniline (IV), o-ethylaniline (V), and indoline (VI) yielded complex mixts. which gave pos. Ehrlich tests. I yielded o-ethylaniline, o-toluidine, and aniline, which suggested that a stepwise degradation of the o-alkyl groups takes place. IV yielded aniline and some N-propylaniline, which indicated that N-alkyl groups are removed in one step. All the anilines gave indoles, but yields varied widely. II gave the best yield (13%), whereas III and IV yielded amts. detected only by paper chromatography. II was the only aniline to give both indole and 3-methylindole. II also was found to give all compds. (including carbazole) which so far have been identified among the products of the action of degassed Raney Ni on quinoline. It is concluded that the mechanism of the conversion of quinoline to indole and 3-methylindole proceeds by way of II.
- IT 4630-23-3P, Triphenylamine,
2,2',3,3',5,5',6,6'-octafluoro-4,4'-bis(2,3,4,5,6-pentafluoro-N-phenylanilino)-
RL: PREP (Preparation)
(preparation of)
- RN 4630-23-3 CAPLUS
- CN 1,4-Benzenediamine, 2,3,5,6-tetrafluoro-N1-(2,3,4,5,6-pentafluorophenyl)-
N1,N4-diphenyl-N4-[2,3,5,6-tetrafluoro-4-[(2,3,4,5,6-pentafluorophenyl)phenylamino]phenyl]- (CA INDEX NAME)



=> d ibib abs hitstr 1-5

L4 ANSWER 1 OF 11 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2010:1413816 CAPLUS [Full-text](#)

DOCUMENT NUMBER: 154:11383

TITLE: Red, green, and blue electrochromism in ambipolar poly(amine-amide-imide)s based on electroactive tetraphenyl-p-phenylenediamine units

AUTHOR(S): Huang, Li-Ting; Yen, Hung-Ju; Chang, Cha-Wen; Liou, Guey-Sheng

CORPORATE SOURCE: Functional Polymeric Materials Laboratory, Institute of Polymer Science and Engineering, National Taiwan University, Taipei, 10617, Taiwan

SOURCE: Journal of Polymer Science, Part A: Polymer Chemistry
(2010), 48(21), 4747-4757
CODEN: JPACEC; ISSN: 0887-624X

PUBLISHER: John Wiley & Sons, Inc.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A series of novel poly(amine-amide-imide)s (PAAIs) based on tetraphenyl-p-phenylenediamine (TPPA) units showing anodically/cathodically electrochromic characteristic with three primary colors [red, green, and blue (RGB)] were prepared from the direct polycondensation of the TPPA-based diamine monomer with various aromatic bis(trimellitimide)s. These multi-colored electrochromic polymers were readily soluble in polar organic solvents and showed excellent thermal stability associated with high glass-transition temps. (288-314°) and high-char yield (higher than 60% at 800° in nitrogen). The PAAI films revealed electrochem. oxidation and reduction accompanied with high contrast of optical transmittance color changes from the pale yellow neutral state to the green/blue oxidized state and red reduced state, resp. The electrochromic films had high-coloration efficiency (CE = 1/8 and 242 Cm²/C at the first and the second stages, resp.), low-switching time, and good redox stability, which still retained a high electroactivity after long-term redox cycles.

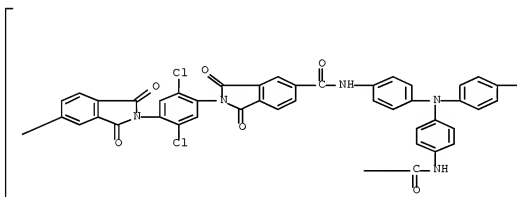
IT 1256599-75-3P

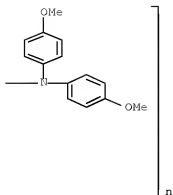
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(red, green, and blue electrochromism in ambipolar
poly(amine-amide-imide)s based on electroactive
tetraphenyl-p-phenylenediamine units)

RN 1256599-75-3 CAPLUS

CN INDEX NAME NOT YET ASSIGNED

PAGE 1-A





REFERENCE COUNT: 61 THERE ARE 61 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 2 OF 11 CAPLUS COPYRIGHT 2010 ACS ON STN

ACCESSION NUMBER: 2006:598624 CAPLUS Full-text

DOCUMENT NUMBER: 145:211587

TITLE: Electrochromic properties of novel strictly alternating poly(amine-amide-imide)s with electroactive triphenylamine moieties

AUTHOR(S): Liou, Guey-Sheng; Hsiao, Sheng-Huei; Fang, Yi-Kai

CORPORATE SOURCE: Department of Applied Chemistry, National Chi Nan University, Nantou Hsien, 545, Taiwan

SOURCE: European Polymer Journal (2006), 42(7), 1533-1540

CODEN: EUPJAG; ISSN: 0014-3057

PUBLISHER: Elsevier Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A series of novel triphenylamine-containing aromatic poly(amine-amide-imide)s (PAAIs) were prepared by the phosphorylation polyamidation reactions from the diamine, N,N'-bis(4-aminophenyl)-N,N'-diphenyl-1,4-phenylenediamine, and various imide ring-preformed dicarboxylic acids. All the PAAIs were amorphous, had good solubility in many polar aprotic solvents, and exhibited excellent thin film forming capability with good mech. properties. They displayed relatively high glass-transition temps. (220-306 °C) and good thermal stability, with 10% weight-loss temps. in excess of 522 °C in air or nitrogen and char yields at 800 °C in nitrogen higher than 66%. The solns. of polymers in NMP exhibited strong UV-vis absorption bands with a maximum around 315 nm. The hole-transporting and electrochromic properties were examined by electrochem. and spectroelectrochem. methods. Cyclic voltammograms of the PAAIs prepared by casting polymer solution onto an indium-tin oxide (ITO)-coated glass substrate exhibited two reversible oxidation redox couples at 0.63 and 1.01 V vs. Ag/AgCl in acetonitrile solution. All the PAAIs revealed very stable electrochromic characteristics, changing color from original pale brownish to green, and then to blue at 0.67 and 1.08 V, resp.

IT 577746-63-5

RL: PRP (Properties)

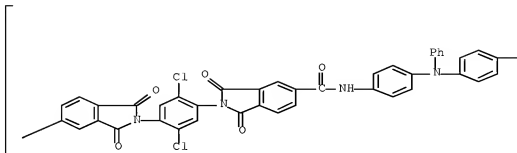
(electrochromic properties of poly(amine-amide-imide)s with electroactive triphenylamine moieties)

RN 577746-63-5 CAPLUS

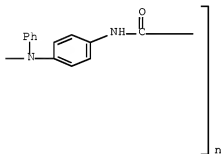
CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)(2,5-dichloro-1,4-phenylene)(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)carbonylimino-1,4-

phenylene(phenylimino)-1,4-phenylene(phenylimino)-1,4-phenyleneiminocarbonyl (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



OS.CITING REF COUNT: 5 THERE ARE 5 CAPLUS RECORDS THAT CITE THIS RECORD (5 CITINGS)
 REFERENCE COUNT: 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

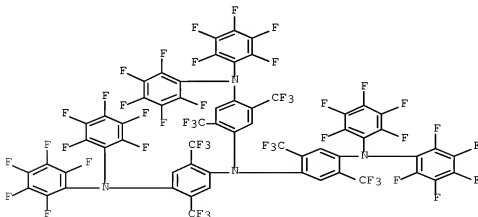
L4 ANSWER 3 OF 11 CAPLUS COPYRIGHT 2010 ACS ON STN
 ACCESSION NUMBER: 2005:35085 CAPLUS Full-text
 DOCUMENT NUMBER: 142:102910
 TITLE: Organic electroluminescent device, illuminating device, and display
 INVENTOR(S): Oshiyama, Tomohiro; Kita, Hiroshi; Katoh, Eisaku
 PATENT ASSIGNEE(S): Konica Minolta Holding, Inc., Japan
 SOURCE: PCT Int. Appl., 80 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 2005004549 A1 20050113 WO 2004-JP9391 20040625
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RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
EP 1651013 A1 20060426 EP 2004-746860 20040625
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR
CN 1817066 A 20060809 CN 2004-80019019 20040625
CN 100556224 C 20091028
US 20070099025 A1 20070503 US 2005-562652 20051227
US 7371469 B2 20080513
US 20080233431 A1 20080925 US 2008-82251 20080410
JP 2003-193519 A 20030708
WO 2004-JP9391 W 20040625
US 2005-562652 A3 20051227
PRIORITY APPLN. INFO.:

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB An organic electroluminescent device comprising at least a light-emitting layer containing a phosphorescent compound between an anode and a cathode is characterized by comprising an adjoining layer so arranged between the light-emitting layer and the cathode as to be adjacent to the light-emitting layer and containing a compound with an electron-withdrawing group having an HOMO at -5.7 eV to -7.0 eV and an LUMO at -1.3 eV to -2.3 eV.
IT 817638-42-9
RL: DEV (Device component use); USES (Uses)
(organo) electroluminescent device, illumination apparatus and display
RN 817638-42-9 CAPLUS
CN 1,4-Benzenediamine, N1,N1-bis[4-(bis(2,3,4,5,6-pentafluorophenyl)amino)-2,5-bis(trifluoromethyl)phenyl]-N4,N4-bis(2,3,4,5,6-pentafluorophenyl)-2,5-bis(trifluoromethyl)- (CA INDEX NAME)



REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 4 OF 11 CAPLUS COPYRIGHT 2010 ACS ON STN
 ACCESSION NUMBER: 2004:609956 CAPLUS Full-text
 DOCUMENT NUMBER: 141:164924
 TITLE: Molecular chemical compounds for emitting photoluminescent radiation, and photoluminescence quenching device employing the same
 INVENTOR(S): Redecker, Michael
 PATENT ASSIGNEE(S): Samsung SDI Co., Ltd., S. Korea
 SOURCE: U.S. Pat. Appl. Publ., 15 pp.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20040147701	A1	20040729	US 2003-727642	20031205
US 7402343	B2	20080722		
EP 1443093	A1	20040804	EP 2003-90022	20030129
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
KR 2004069942	A	20040806	KR 2003-59486	20030827
CN 1519235	A	20040811	CN 2003-10114718	20031231
JP 2004339190	A	20041202	JP 2004-7343	20040114
PRIORITY APPLN. INFO.:			EP 2003-90022	A 20030129
			KR 2003-59486	A 20030827

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

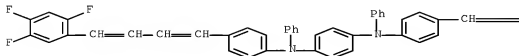
AB A chemical compound has an electron donor group, an electron acceptor group, and a conjugated bridging element bridging between the electron donor group and the electron acceptor group. The chemical compound has a readily displaceable electron, is capable of emitting photoluminescent radiation. A dipole character is present therein only in the excited state of the compound. The compds. are suitable for use in optical devices and, particularly, can be used for photoluminescence quenching devices.

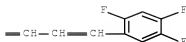
IT 728915-87-5 728915-91-1
 RL: TEM (Technical or engineered material use); USES (Uses)
 (mol. chemical compds. for emitting photoluminescent radiation for photoluminescence quenching device)

RN 728915-87-5 CAPLUS

CN 1,4-Benzenediamine, N1,N4-diphenyl-N1,N4-bis[4-[4-(2,4,5-trifluorophenyl)-1,3-butadien-1-yl]phenyl]- (CA INDEX NAME)

PAGE 1-A





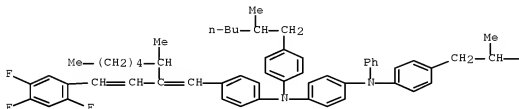
RN 728915-91-1 CAPLUS

CN 1,4-Benzenediamine, N,N'-bis[4-(2-methylhexyl)phenyl]-N-[4-[3-methyl-2-[(2,4,5-trifluorophenyl)ethenyl]-1-octenyl]phenyl]-N'-phenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 728915-90-0

CMF C61 H71 F3 N2



—Bu-n

OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD (4 CITINGS)

REFERENCE COUNT: 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 5 OF 11 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2003:868360 CAPLUS [Full-text](#)

DOCUMENT NUMBER: 139:371610

TITLE: Organic electroluminescent materials and devices having high luminescent efficiency and color purity
Funabashi, Masakazu; Iwakuma, Toshihiro; Hosokawa, Chishio

INVENTOR(S):

PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003313547	A	20031106	JP 2002-116935	20020419

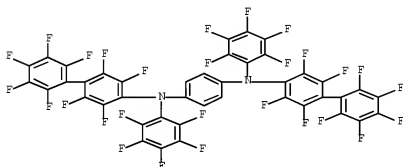
PRIORITY APPLN. INFO.:
OTHER SOURCE(S): MARPAT 139:371610

AB The materials are Ar1(NAr4Ar6)n(NAr5Ar7)mNAr2Ar3 [n= 1-3; m = 0-2; Ar1-Ar3, Ar6, Ar7 = 1,2-, 1,3-, or 1,4-(perfluoro)phenyl (structures given); ≥1 of Ar1-Ar3, Ar6, Ar7 = perfluorophenyl; Ar4, Ar5 = 1,2-, 1,3-, or 1,4-(perfluoro)phenylene (structures given); Ar4 and/or Ar5 = perfluorophenylene]. The devices, preferably blue-emitting, contain the materials as host materials in emitter layers and are useful as light sources for elec. apparatus

IT 620607-81-0P 620607-86-5P
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (fluorophenylamines as host materials in emitter layers in organic electroluminescent devices)

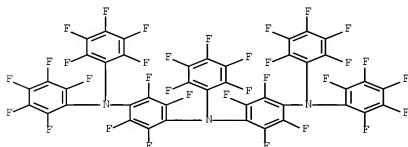
RN 620607-81-0 CAPLUS

CN 1,4-Benzenediamine, N1,N4-bis(2,2',3,3',4',5,5',6,6'-nonafluoro[1,1'-biphenyl]-4-yl)-N1,N4-bis(2,3,4,5,6-pentafluorophenyl)- (CA INDEX NAME)

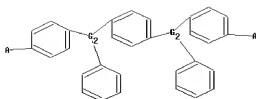


RN 620607-86-5 CAPLUS

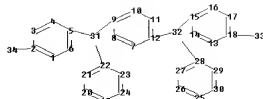
CN 1,4-Benzenediamine, N1-[4-[bis(2,3,4,5,6-pentafluorophenyl)amino]-2,3,5,6-tetrafluorophenyl]-2,3,5,6-tetrafluoro-N1,N4,N4-tris(2,3,4,5,6-pentafluorophenyl)- (CA INDEX NAME)



=>
Uploading C:\Program Files\STNEXP\Queries\10582459#1.str



C₂-H₉-C₂



42-39-40

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31 32 33 34 39 40 42
ring nodes :
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
24 25 26 27 28 29 30
chain bonds :
2-34 5-31 9-31 12-32 15-32 18-33 22-31 28-32 39-40 39-42
ring bonds :
1-2 1-6 2-3 3-4 4-5 5-6 7-8 7-12 8-9 9-10 10-11 11-12 13-14 13-18 14-
15
15-16 16-17 17-18 19-20 19-24 20-21 21-22 22-23 23-24 25-26 25-30 26-27
27-28 28-29
29-30
exact/norm bonds :
2-34 5-31 9-31 12-32 15-32 18-33 22-31 28-32 39-40 39-42
normalized bonds :
1-2 1-6 2-3 3-4 4-5 5-6 7-8 7-12 8-9 9-10 10-11 11-12 13-14 13-18 14-
15
15-16 16-17 17-18 19-20 19-24 20-21 21-22 22-23 23-24 25-26 25-30 26-27
27-28 28-29
29-30
isolated ring systems :
containing 1 : 7 : 13 : 19 : 25 :

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G1:Ak,H

G2:N,P

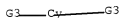
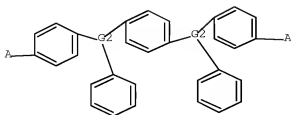
G3:B,X

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Match level :
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11:Atom 12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 17:Atom 18:Atom 19:Atom
20:Atom 21:Atom
22:Atom 23:Atom 24:Atom 25:Atom 26:Atom 27:Atom 28:Atom 29:Atom 30:Atom
31:CLASS 32:CLASS
33:CLASS 34:CLASS 39:Atom 40:CLASS 42:CLASS
Generic attributes :
39:
Saturation : Unsaturated

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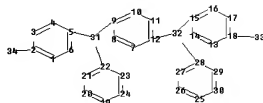
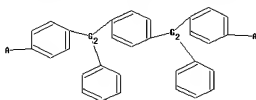
=> d l1
 L1 HAS NO ANSWERS
 L1 STR



G1 Ak,H
 G2 N,P
 G3 B,X

Structure attributes must be viewed using STN Express query preparation.

=>
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chain nodes :
 31 32 33 34 39 40 42
 ring nodes :
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 24 25 26 27 28 29 30
 chain bonds :
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 ring bonds :
 1-2 1-6 2-3 3-4 4-5 5-6 7-8 7-12 8-9 9-10 10-11 11-12 13-14 13-18 14-15
 15-16 16-17 17-18 19-20 19-24 20-21 21-22 22-23 23-24 25-26 25-30 26-27
 27-28 28-29
 29-30

exact/norm bonds :
 2-34 5-31 9-31 12-32 15-32 18-33 22-31 28-32 39-40 39-42
 normalized bonds :
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 15-16 16-17 17-18 19-20 19-24 20-21 21-22 22-23 23-24 25-26 25-30 26-27
 27-28 28-29
 29-30
 isolated ring systems :
 containing 1 : 7 : 13 : 19 : 25 :

G1:Ak,H

G2:N,P

G3:B,X

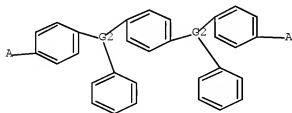
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 20:Atom 21:Atom
 22:Atom 23:Atom 24:Atom 25:Atom 26:Atom 27:Atom 28:Atom 29:Atom 30:Atom
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 Generic attributes :
 39:
 Saturation : Unsaturated

L2 STRUCTURE UPLOADED

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L2 HAS NO ANSWERS

L2 STR



G3-H3-G3

G1 Ak,H

G2 N,P

G3 B,X

Structure attributes must be viewed using STN Express query preparation.

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SAMPLE SCREEN SEARCH COMPLETED - 11338 TO ITERATE

100.0% PROCESSED 11338 ITERATIONS 0 ANSWERS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 220378 TO 233142
PROJECTED ANSWERS: 0 TO 0

L3 0 SEA SSS SAM L2

=> s l2 full
FULL SEARCH INITIATED 12:52:20 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 228780 TO ITERATE

100.0% PROCESSED 228780 ITERATIONS 3 ANSWERS
SEARCH TIME: 00.00.01

L4 3 SEA SSS FUL L2

This file contains CAS Registry Numbers for easy and accurate
substance identification.

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L5 2 L4

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L5 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 2010:1527402 CAPLUS [Full-text](#)
DOCUMENT NUMBER: 154:114338

TITLE: Accumulative charge separation inspired by
photosynthesis

AUTHOR(S): Karlsson, Susanne; Boixel, Julien; Pellegrin, Yann;
Blart, Errol; Becker, Hans-Christian; Odobel, Fabrice;
Hammarstroem, Leif

CORPORATE SOURCE: Department of Photochemistry and Molecular Science,
Uppsala University, Uppsala, SE-751 20, Swed.

SOURCE: Journal of the American Chemical Society (2010),
132(51), 17977-17979
CODEN: JACSAT; ISSN: 0002-7863

PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal; (online computer file)
LANGUAGE: English

AB Mol. systems that follow the functional principles of photosynthesis have
attracted increasing attention as a method for the direct production of solar
fuels. This could give a major carbon-neutral energy contribution to our
future society. An outstanding challenge in this research is to couple the
light-induced charge separation (which generates a single electron-hole pair)
to the multielectron processes of water oxidation and fuel generation. New
design considerations are needed to allow for several cycles of photon
absorption and charge separation of a single artificial photosystem. Here we
demonstrate a mol. system with a regenerative photosensitizer that shows two
successive events of light-induced charge separation, leading to high-yield

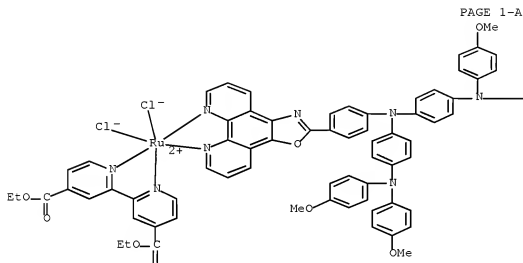
accumulation of redox equivalent on single components without sacrificial agents.

IT 1260429-14-8P

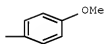
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(synthesis and reaction of, with potassiumcyanide; accumulative charge separation inspired by photosynthesis)

RN 1260429-14-8 CAPLUS

CN INDEX NAME NOT YET ASSIGNED



PAGE 1-B



PAGE 2-A

REFERENCE COUNT: 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 2006:1354282 CAPLUS [Full-text](#)

DOCUMENT NUMBER: 146:101958
 TITLE: Polymer materials with good charge injection and transporting properties and luminescent efficiency for light emitting devices
 INVENTOR(S): Nakatani, Tomoya; Yamada, Takeshi
 PATENT ASSIGNEE(S): Sumitomo Chemical Company, Limited, Japan
 SOURCE: PCT Int. Appl., 15pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006137436	A1	20061228	WO 2006-JP312406	20060621
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
JP 2007031705	A	20070208	JP 2006-170885	20060621
GB 2442656	A	20080409	GB 2008-1069	20060621
GB 2442656	B	20091223		
DE 112006001679	T5	20080515	DE 2006-112006001679	20060621
CN 101198633	A	20080611	CN 2006-80021855	20071218
KR 2008020635	A	20080305	KR 2007-7029883	20071221
US 20100084965	A1	20100408	US 2007-993660	20071221
PRIORITY APPLN. INFO.:			JP 2005-182276	A 20050622
			WO 2006-JP312406	W 20060621
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT				
GI				

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB Title luminescent or charge-transporting polymer compds. have a main chain containing a divalent heterocyclic group, a divalent condensed polycyclic hydrocarbon group including no five-membered ring, a group I or a divalent aromatic amine group as a repeating unit, and a functional side chain containing ≥ 1 functional group selected from hole injecting/transporting groups, electron injecting/transporting groups, and light-emitting groups, wherein ring A, ring B = independently (un)substituted aromatic hydrocarbon ring (A \neq B) and Rw, Rx = independently B or substituent (Rw and Rx may combine together to form a ring). The functional group is directly bonded to a saturated carbon atom in the repeating unit or bonded to the repeating unit via X in an RJX group (RJ = (un)substituted alkylene group and X = direct bond, O, S, C(=O), C(=O)O, S(=O), SiR8R9, NR10, BR11, PR12 or P(=O)R13). Thus, 30 mmol N-phenyl-1,4-phenylenediamine and 120 mmol 4-bromo-butybenzene were reacted, and treated with N-bromosuccinimide to give N1-(4-bromophenyl)-N1,N4,N4-tris(4-butyphenyl)-1,4-benzenediamine, 4.0 mmol of which was reacted

with 10 mmol 8-bromooctene in the presence of 9-borabicyclo[3.3.1]nonane and palladium complex catalyst, 2.1 equiv the resulting N1-[4-(8-bromooctyl)phenyl]-N1,N4,N4-tris(4-butylphenyl)-1,4-benzenediamine was reacted with 1 equiv 3,7-dibromo-2,8-dibenzofurandiyl to give a monomer II, which was polymerized in the presence of 2,2'-bipyridyl and bis(1,5-cyclooctadiene)nickel at 60° for 3 h to give a homopolymer, showing electroluminescence at 440 nm when fabricated into an electroluminescent element.

IT 917376-15-9P

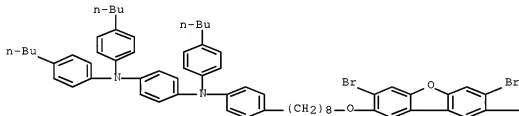
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(monomer; preparation of polymer materials with good charge injection and transporting properties and luminescent efficiency for light emitting devices)

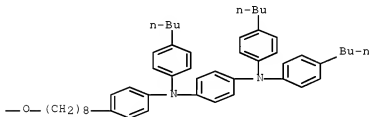
RN 917376-15-9 CAPLUS

CN 1,4-Benzenediamine, N1,N1'-[(3,7-dibromo-2,8-dibenzofurandiyl)bis(oxy-8,1-octanediyl-4,1-phenylene)]bis[N1,N4,N4-tris(4-butylphenyl)- (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



IT 917376-18-2P

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

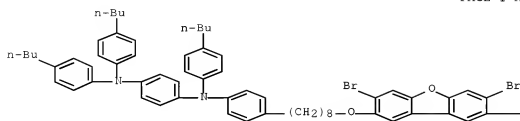
(preparation of polymer materials with good charge injection and transporting properties and luminescent efficiency for light emitting devices)

RN 917376-18-2 CAPLUS

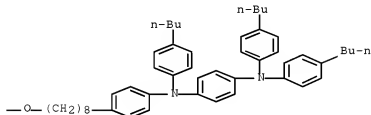
CN 1,4-Benzenediamine, N1,N1'-[(3,7-dibromo-2,8-dibenzofurandiyl)bis(oxy-8,1-octanediyl-4,1-phenylene)]bis[N1,N4,N4-tris(4-butylphenyl)-, homopolymer (CA INDEX NAME)

CRN 917376-15-9
 CMF C112 H130 Br2 N4 O3

PAGE 1-A



PAGE 1-B



REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT